

## FROM THE CHIEF HISTORIAN



One of the great success stories of the NASA History Division over the last 50 years has been our publishing program. Since the SP-4000 series was inaugurated in 1963 with James Grimwood's book on Project Mercury, almost 100 books and 40 monographs have been published, as well as products in electronic media in more recent years. You can browse through a list of this half of a century of labor at <http://history.nasa.gov/series95.html>; many of the books themselves are online at <http://history.nasa.gov/on-line.html>. Taken together, they constitute a wealth of information on NASA's multifaceted program, management, and institutional history.

I am sometimes asked why we need even more books and studies. My answer is that, aside from the fact that each age reinterprets history in light of subsequent events, many areas of space history have never been adequately treated. This was one of the conclusions of our "Critical Issues in the History of Spaceflight" workshop, the proceedings of which have just been published in our conference series as NASA SP-4702, and should be available online soon. Our History Division Strategic Plan calls for us to publish books that fill large gaps in the historical literature. For example, while the drama of human spaceflight has been well represented in the NASA History Series, space science, Earth science, and applications satellites have received very little attention. We are trying to remedy those large gaps if funding can be found. Meanwhile, we also are addressing other discrete areas. By the time this newsletter appears, we hope to have released a request for proposal for a history of the development of deep space navigation. It is striking that although deep space navigation techniques are required for every mission beyond Earth, the history of how these techniques have developed since the first Ranger

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## PREVIEW OF THE "SOCIETAL IMPACT OF SPACEFLIGHT CONFERENCE"

—Caitlin E. Gallogly

The NASA History Division and the National Air and Space Museum (NASM) Department of Space History will host a conference on the "Societal Impact of Spaceflight" at the Smithsonian's Hirshhorn Museum in Washington, DC, 19–21 September 2006. The conference will provide a forum for considering the impact of human and robotic spaceflight on society in all its dimensions. In six separate sessions over three days, leading scholars of the Space Age will explore the economic, political, scientific, technological, social, and cultural ramifications of spaceflight.

The conference will begin with a welcome from NASA Chief Historian Steven Dick and NASM Department of Space History Chairman Roger Launius. The keynote speaker, American University Public Affairs Professor Howard E. McCurdy, will present an interpretive framework for categorizing how expectations about spaceflight match up against actual events. His talk will include an assessment of the ideas spaceflight proponents in different countries espouse and how such ideas shape public expectations about spaceflight.

The first session, on "Turning Point Impacts," will feature an analysis from Roger Launius on the concept of turning points in the history of spaceflight. James T. Andrews of Iowa State University will follow with an examination of

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*Preview of the “Societal Impact of Spaceflight Conference” (continued)*

the increasing role of the state in shaping public opinion about spaceflight in the Soviet Union in the 1930s and 1950s. Independent writer Andrew Chaikin will analyze the impact of the Apollo Program upon American culture, while NASM Space History Curator Valerie Neal will discuss changing perceptions of human spaceflight as a result of the Shuttle accidents. Auburn University Professor James Hansen will return to the international theme with an exploration of the verbal messages and iconography of spaceflight in contemporary China. George Washington University Professor John Logsdon will conclude the session by considering whether public support for human spaceflight declined with the end of the Cold War or if the shift in public attitudes occurred much earlier.

Rutgers University Professor Philip Scranton will open the second session, on “Commercial and Economic Impact,” by presenting a framework for understanding the influence of the space program on the broader U.S. economy and spheres of scientific and technical knowledge. Stephen B. Johnson of NASA’s Marshall Space Flight Center and the University of Colorado will present an economic history of space activities using quantitative data to elaborate the factors behind the growth of distinct space market sectors, including telecommunications, launch, education, navigation, science, media, and insurance. James Vemma of the Aerospace Corporation will examine the role of space technology in enabling globalization, while John Krige of the Georgia Institute of Technology will

explore the use of space technology as an instrument of U.S. foreign policy in the 1960s. Jennifer Ross-Nazzari of NASA Johnson Space Center will explain how innovations in food safety within the space program influenced food regulations both in the United States and abroad. Finally, George Washington University’s Space Policy Institute’s Ray Williamson and Henry Hertzfeld will discuss the social, environmental, and economic impact of Earth-observing satellites.



Workers putting the finishing touches on the nation’s first weather satellite, the Television Infrared Observation Satellite (TIROS), which launched from Cape Canaveral on 1 April 1960. The satellite weighed 270 pounds and carried two television cameras, a magnetic tape recorder, timer systems, transmitters, and a power supply. Early photographs provided new information on cloud systems, including spiral formations associated with large storms.

(Center: GSFC; Center number: G-65-5216; GRIN database number: GPN-2002-000116)

The third session will focus on “Applications Satellites, the Environment, and National Security.” JPL’s Erik M. Conway will begin the session with a presentation on the immense societal benefits of unmanned satellites and spacecraft. Conway also will comment upon the lack of historical writing on this subject compared to the vast body of work on the more glamorous topic of human spaceflight. David Whalen of IOT Systems will follow Conway with a discussion about the extensive use of applications satellites in today’s world and the many industries and aspects of daily human life that they affect. Henry Lambright of Syracuse University will then discuss the environmental impact of NASA satellites and spacecraft, focusing upon changes in knowledge, public opinion, and government policy. Air Force Historian Rick Sturdevant will give a presentation on the impact and implications of the Global Positioning System in the military, civilian, and commercial realms, while Roger Handberg of the University of Central Florida will examine the dual system of space technology for civilian and military uses. Glenn Hastedt

of James Madison University will conclude the session with a presentation on the role of reconnaissance satellites in American national security.

The fourth session, on the “Social Impact” of spaceflight, includes an overview from Glen Asner of the NASA History Division that will consider the possibilities of understanding the history of spaceflight through the lens of social history, focusing on the topics of education, social networks, ritual, race, and gender. Andrew Franknoi, of Foothill College and the Astronomical Society of the Pacific, will examine the challenges and opportunities of presenting space education in the various settings in which it occurs. He also will discuss the professionalization of space science education and public outreach. Kim McQuaid, a professor at Lake Erie College, will then explore the role of African American women in the struggle to integrate the human spaceflight program. Looking at the communities NASA Centers inhabit, Kevin Brady of Texas Christian University will discuss the impact NASA has had on the state of Texas, politically, socially, and economically, while Peter Westwick of Yale University will explain the influence of the Jet Propulsion Laboratory on California. NASM Curator Margaret Weitekamp will round out the session with a discussion of how space memorabilia provides a window into understanding the impact of the space program on cultural institutions, the general public, and the space workforce.

Professor De Witt Douglas Kilgore of Indiana University will then discuss the depiction of the search for extraterrestrial intelligence (SETI) in a subgenre of novels connected to science writing and mainstream fiction. Such novels, according to Kilgore, honor “the rationale and spirit of” the SETI research agenda by depicting contact with extraterrestrial intelligence as central to resolving social and political conflicts and ensuring the survival of the human species. Independent scholar Ron Miller will then speak broadly about the relationship between spaceflight and the arts and literature over the centuries, while Mark Livio and James Manning of the Space Telescope Science Institute will explore the influence of the Hubble Space Telescope on culture. Alexander Geppert of the Freie Universität Berlin will conclude the fifth session by considering the extent to which myth and metaphor have pervaded the European perspective on space and whether, in fact, Europeans have held a set of common assumptions about space and the role of Europe in the history of spaceflight.

Linda Billings of the SETI Institute will begin the final session of the conference by raising a broad range of questions concerning the relationship between ideology and the U.S. space program. JSC’s Wendell Mendell will explore the epiphanic roots of interest in space exploration and how improved understanding of the epiphanic nature of space interest might shape NASA outreach strategies. California State University Professor Taylor Dark will assess the relationship between the American space program and changing conceptions of progress in the Apollo and post-Apollo eras. Chris Gainor of the University of Alberta will end the session with an analysis of the conflicting perceptions and goals of different space advocacy groups and what such disagreements mean for the ability of the space movement to influence national priorities.



Astronaut Sam Durrance and Kennedy Center Director Jim Kennedy (center right) with students of the Oscar Patterson Elementary Magnet School in Panama City, Florida. Kennedy and Durrance visited the school as part of a tour of NASA Explorer Schools to talk with students about our destiny as explorers, NASA’s Vision for Space Exploration, and how space impacts our lives.

(From NIX database; Center: NASA Kennedy Space Center; number: KSC-04PD-0712)

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*Preview of the “Societal Impact of Spaceflight Conference” (continued)*

M. G. Lord, cultural historian and investigative journalist, will close the conference with an address that explores the topic of human fragility as it relates to potential long-term human space travel, exploration, and colonization. She will discuss the American perception that man will one day explore space, as demonstrated through the commercial media and through scientific plans, and will focus upon the possible problems with that idea from a physiological and logistic perspective. Finally, she will comment upon the need for humans to accept, rather than dismiss, these potential problems arising from human frailty and propose using the recognition of such issues as jumping-off points for finding solutions in order to help make the goal of humans in space a reality.

A central goal of the conference is to raise questions and inspire further scholarship on the societal impact of spaceflight. Chief Historian Steven Dick and the rest of the History Division staff expect the conference to generate innovative ideas and spark lively debate, to the benefit of scholars and the general public alike. For detailed information about the conference, including paper abstracts and the biographical information of presenters, please see our Web site at <http://history.nasa.gov/socimpactconf/index.html>.



Astronauts Neil A. Armstrong, Edwin E. “Buzz” Aldrin, Jr., and Michael Collins, wearing sombreros and ponchos, are swarmed by onlookers during their visit to Mexico City in September 1969 as part of the “Giant Step–Apollo 11” Presidential Goodwill Tour.

(Center: HQ; Center number: 70-H-1553; GRIN database number: GPN-2002-000016)

*From the Chief Historian (continued)*

probes managed to hit the Moon has never been written. Deep space navigation begins with accurate lunar and planetary ephemerides so mission planners know the location of the target and includes trajectory design using techniques like Hohmann transfer and gravity-assist, as well as maneuver design for midcourse corrections and landing techniques.

Another gap in the literature is NASA’s international relations. Interaction with other countries has been an important part of the Agency’s work from the beginning, culminating with the complex 16-country partnership of the International Space Station. But the history of this interaction never has been written, aside from a few case studies. We therefore hope to issue a request for proposals for a book-length study on this subject, including factors shaping NASA’s international relations, the evolution of the principles governing those relations, and the balance between the sometimes competing interests of national security and foreign policy. RFPs and other news are announced on our mailing list; instructions for signing up are online at <http://history.nasa.gov/listserv.html>.

Another of our strategies is to complete or update our flagship series of publications by NASA’s 50th anniversary in 2008. Over the next two years, volumes 7 and 8 (covering human spaceflight) of John Logsdon’s *Exploring the Unknown* will be published, completing this documentary history of the U.S. civil space program. James Hansen is completing four volumes of the aeronautical counterpart, *The Wind and Beyond*. Judy Rumerman is



completing volumes 7 and 8 of the *NASA Historical Data Book*, covering the years 1989 to 1998, an essential reference for NASA history. The *NASA Pocket Statistics*, last issued in 1997, will reappear later this year. And the *Origins of NASA Names*, last published in 1976, is being totally revised by Paul Dixon as an *Aerospace Dictionary* in the tradition of the *Oxford English Dictionary*.

Among other projects in process are four volumes of the memoirs of Boris Chertok, involving a team of translators under the able editorship of Asif Siddiqi; Siddiqi and Peter Gorin's translation and commentary on the Mishin and Feokstikov diaries; Michael Meltzer's histories of the Galileo spacecraft and the planetary protection program; Maura Mackowski's history of life sciences at NASA since 1980 (another large gap in the literature); Thor Hogan's history of the Space Exploration Initiative; Tom Heppenheimer's book on the history of hypersonics; Erik Conway's history of atmospheric sciences at NASA; Rob Ferguson's history of aeronautics at NASA since 1958 (a huge gap); Andrew Butrica's study of lessons learned in the Space Shuttle's return to flight following the Columbia disaster in 2003; Sunny Tsiao's history of the Spacecraft Tracking and Data Network (STDN); a history of wind tunnels at NASA; and a classified history of NASA–National Reconnaissance Office (NRO) relations.

These books are published thanks not only to the authors' hard work in doing research, but also to the sometimes heroic efforts of the History Division staff. Nadine Andreassen deals with the myriads of budget, procurement, and accounting issues necessary to inaugurate a book project and see it through the press. Steve Garber, Glen Asner, and I decide subjects, write statements of work, arrange and participate in the selection review panels, monitor the peer-review process, serve as Contracting Officer's Technical Representatives (COTRs) throughout the projects to ensure accurate and scholarly products, and see the books through editing and production with the NASA Headquarters Printing and Design Office. Not to forget the archival side of our operations, Chief Archivist Jane Odom and her staff (John Hargenrader and Colin Fries) apply their expert knowledge to help researchers use the NASA Historical Reference Collection, the National Archives, and other archival sources for original research. We are usually lucky enough to have several student interns lending their enthusiastic help.

Finally, I am announcing the inauguration of a new line in the NASA History series, SP-4900, Societal Impact of Spaceflight. As many of you know, this is a particular interest of mine, and the History Division has taken up this important subject as part of its portfolio at a time when it is clear that a sustained multigenerational space exploration vision requires society to understand the importance of space exploration and its impact on the daily lives of individuals and on the long-term future of the nation. The first book in this series will be the proceedings of our "Societal Impact of Spaceflight Conference," to be held 19–21 September at the Smithsonian's Hirshhorn Museum in Washington, DC. The agenda was printed in the previous issue of *News & Notes*, and the abstracts, logistics, and registration information now are available at <http://history.nasa.gov/socimpactconf/index.html>. Subsequent volumes in the series will include a variety of special studies that have been commissioned on the topic. We are still commissioning these studies; if you have an idea, please contact me directly.

Steve Dick

## NEWS FROM HEADQUARTERS AND THE CENTERS

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### Headquarters

Nadine Andreassen continued to work on personnel, budgeting, grants, and contracts, and she is beginning to plan in earnest for the “Societal Impact of Spaceflight Conference,” which will be held in September in Washington, DC. She also continued to work on improving the History Division’s marketing and outreach efforts and attended the Agency Records Management Meeting held at GSFC.



NASA History Division staff on the roof of NASA Headquarters, March 2006. From left to right: Steve Garber, Nadine Andreassen, Colin Fries, Jane Odom, Glen Asner, John Hargenrader, Gabriel Okolski, Julia Sawyer, and Steven Dick.

Glen Asner continued to work with Steve Garber toward the completion of their manuscript on the history of NASA’s Decadal Planning Team and the development of the Vision for Space Exploration. Glen also successfully defended his doctoral dissertation at Carnegie Mellon University in June and continued to make progress on his other History Division projects, including compiling the *Aeronautics and Space Report of the President* and NASA

*News & Notes*, overseeing the production of contract histories, and preparing for the upcoming conference on the “Societal Impact of Spaceflight.”

Colin Fries continued the ongoing task of scanning our *Current News* collection and adding it to the electronic database; he is working on the 1972–74 news articles at present. He completed the arrangement and description of two small collections—Space Station *Freedom* congressional files (1989–94) and Office of Exploration files (1989–93). Colin also finished compiling and scanning Headquarters organizational charts from the History Division archive and from other sources. These organizational charts, along with *The Evolution of NASA Organization* publication, are now posted on the NASA History Division Web site at <http://history.nasa.gov/orgcharts/orgcharts.html>. Colin also compiled a list of the Congressional Space Medal of Honor recipients, which is posted at <http://history.nasa.gov/spacemedal.htm>.

Caitlin Gallogly joined the History Division as a summer intern. A Los Angeles native, Caitlin is a junior at Lawrence University in Wisconsin, where she studies history, English literature, and political science. In addition to assisting with the cataloging of several Administrator archival files for Jane Odom, Caitlin is editing and compiling the *Research in NASA History* monograph, to be released shortly, and is assisting the History Division staff with a number of other projects, such as editing oral interview transcripts for Glen Asner and Steve Garber and aiding in the layout and publication of the upcoming *Science in Flux* by Mark Bowles. Additionally, Caitlin is helping to organize and publicize the upcoming conference on the “Societal Impact of Spaceflight.”

Steve Garber continued to work with Glen Asner on their history of the Decadal Planning Team and the development of the Vision for Space Exploration. Steve looks forward to attending a course on statistics at the U.S. Department of Agriculture (USDA) Graduate School in September. He also welcomes our newest intern, Caitlin Gallogly, to the History Division.

John Hargenrader continued to scan NASA *Current News* articles and add them to our electronic database; he is working on 1983–86 articles at this time. He also continued with the preservation and photocopying of old newspaper clippings in the Apollo human space-flight files; these news articles are badly deteriorated and in need of rescue. John also worked on processing a small collection of our own NASA History Division files.

Jane Odom continued to acquire and appraise new material for the Historical Reference Collection. The latest additions to the collection include source files for the *NASA Historical Data Book* and *Exploring the Unknown*, as well as space commercialization material and chronological correspondence files of former Deputy Administrator Fred Gregory. Recently, Jane appraised several large collections being offered to the History Division—one in the Science Mission Directorate, the other in the Office of Legislative Affairs. Additionally, she appraised 2 cubic feet of *International Space Station PAO Working Group Briefing Books* and *PAO Mission Briefing Books*. Jane continued to answer reference requests in her spare time and supervised an intern who is assisting her by describing former Administrator James Webb's chronological correspondence files from the 1960s.

## Ames Research Center

Nicholas Veronico just published a beautiful pictorial history, simply titled *Moffett Field* (Arcadia Publishing, 2006). Veronico, until recently with the NASA Ames Public Affairs Office, selected images to reflect the entire history of the airfield, including the work of NASA Ames. With all the recent controversy surrounding Hangar One, it has been selling briskly.

For the meetings of the Society of California Archivists (SCA, in San Francisco on 27–29 April), Leilani Marshall organized a well-attended session on “Documenting California’s Aerospace History.” She presented an overview of the NASA Ames History Office, as well as a list she compiled of “California’s Aerospace Repositories.” Other presenters were Bonita Smith, formerly of the GRC History Office and now archivist with Aerospace Corporation, and John Hill representing the Louis A. Turpen Aviation Museum at the San Francisco International Airport. Leilani also served on the SCA local arrangements committee, with special responsibility for liaison with archival supply vendors. She had several good conversations with vendors about establishing a NASA purchasing consortium.

April Gage rolled out a major revision of the internal History Office Web site (<http://archives.arc.nasa.gov>). In addition to a completely new look and feel, every part of the site now helps facilitate the collaborative relationship between the History Office and Ames employees. The purpose of the new site is to improve local awareness of the Center’s legacy, attract donations of historical assets, highlight all the historical work being done on the Center, and promote the sharing of resources and knowledge. For example, the “Contribute” section gives detailed guidance on how the Ames community can donate materials to the archives. It also asks all readers to peer-review

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*News from Headquarters and the Centers (continued)*

drafts of history works in progress and suggests how their own work can benefit from using the archives. The site provides the community with history-oriented resources, such as slides about Ames history, that they can download and use in their own presentations, and it also invites individuals to post their own historical slides for others to incorporate into their own presentations.

The internal site is linked to the Ames History Office public Web site (<http://history.arc.nasa.gov>) for materials meant to help researchers and the general public dig deeper into NASA Ames history. This includes links to online versions of Ames history books, finding aids to archival materials available at Ames and at the National Archives, and other background material on the history of the Center. To view the internal site, please contact April at [agage@arc.nasa.gov](mailto:agage@arc.nasa.gov) for connection advice or for a copy of the site on CD.

## Dryden Flight Research Center

Mike Gorn continued to supervise the editing of the second edition of Lane Wallace's *Flights of Discovery: The History of the Dryden Flight Research Center*, which is due for publication in late 2006, in time for the Center's 60th anniversary. Mike will be leaving the position of Chief, Office of Public Affairs, Commercialization, and Public Outreach at Dryden (Code T) in August, at which time he will succeed Dill Hunley as Dryden Ombudsman on a part-time basis while remaining in the civil service. Mike will continue—on his own initiative—to publish books and articles related to aeronautics and spaceflight.

The History Office's archives are on the move, relocating from cramped quarters in the Center's main building to a large structure that will house the archives' Lektrievers, artifacts, NASA publications, and newly accessed material. The facility will actually have space for visiting researchers and volunteers who, we hope, can spend time sorting and identifying material in new collections. As you read this, the move will be complete.

Christian Gelzer wishes to announce that *Unconventional, Contrary, and Ugly: The Story of the Lunar Landing Research Vehicle* has come back from the publisher and will be distributed to other Centers soon. Those outside of NASA Centers can send a self-addressed and stamped envelope (Priority Mail postage) to him at NASA Dryden FRC, Building 4839, Edwards, CA 93523, and Christian will mail a copy of the book in return. Christian currently is working to set up a symposium and book signing at Dryden with the three authors of the book and the last two surviving pilots who flew the lunar landing research vehicle (LLRV). He also has been incorporating the comments and suggestions of outside readers into Lane Wallace's second edition of *Flights of Discovery*.

Curtis Peebles continued to work on his history of the X-43. This involves continued work on the two-part *Quest* article, an American Institute of Aeronautics and Astronautics (AIAA) paper on the difficulties with the fin actuation system, and a "lessons learned" book, also in connection with the AIAA.



In the wake of budget cuts, Peter Merlin has conducted public tours (as have the other historians on occasion), sat for an interview with a local newspaper regarding the significance of Dryden, supplied material for a brochure on the Center's capabilities, and overseen much of the move from the old archives site to the new one. He also has spent time on a pictorial book titled *A Place Like No Other*.

## Glenn Research Center

Work continued on the Altitude Wind Tunnel and Propulsion Systems Lab 1 & 2 documentation project in order to prepare for the demolition of these historically significant facilities. A community awareness meeting was held on 27 April 2006 to inform the community and allow public comment on the demolition projects. Anne Power described the history of the facilities and the historical mitigation work currently under way, Les Main (Facilities Office) discussed the demolition process, and Trudy Kortess (Environmental Office) talked about the Environmental Assessment and Section 106 process. Archivist Bob Arrighi continued to document for historical purposes the Altitude Wind Tunnel, Space Power Chamber, and Propulsion Systems Lab 1 & 2, all of which are slated for demolition. He viewed 51,000 feet of film footage and selected 18,500 feet of the most interesting footage to be digitized as part of the preservation project.

Archivist Nora Blackman (RSIS) has been working hard to complete the Center Director's Office files processing project (approximately 36 cubic feet of material) and the rest of the Record Group 1 processing projects before the scheduled move of the archives to their new location in the spring of 2007. While no major accessions have arrived in the last few months, a steady stream of boxes continued to come in from retirees and records management initiatives.

Research and reference requests were many and varied, including such topics as Glenn Research Center (GRC) contributions to STS-1, the J-2X engine, Project Ranger and Surveyor, aviation history, and the Apollo Program. We welcomed Dr. Janet Bednarek to the Center as she worked with our materials relating to the Cleveland Jet Port project of the 1960s and 1970s.

The History Office, along with the GRC Visitor's Center, was pleased to host Dr. Jim Hansen, author of *First Man: The Life of Neil Armstrong*, in conjunction with the Second Annual Space Memorabilia Show. Dr. Hansen spoke to employees and the public about his experiences writing the biography of such an influential person about whom we knew so little.

The Air Race Historian's Conference was held in Cleveland on 5-6 May 2006. The History Office staff put their traveling exhibit on display and enjoyed an evening chatting with air race enthusiasts, experts, and even former pilots. Additionally, the archives exhibit created for the Center's Earth Day events was posted as a Web page by the Public Affairs Office at [http://www.nasa.gov/centers/glenn/about/history/70s\\_energy.html](http://www.nasa.gov/centers/glenn/about/history/70s_energy.html).

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*News from Headquarters and the Centers (continued)*

## Goddard Space Flight Center

The Goddard Library is aligning with the Center's Knowledge Management Architect's objectives by planning and implementing the following projects and activities: identifying and archiving Goddard's past projects in the Goddard Projects Directory and the Digital Asset System; assisting in the development of the NASA Engineering Network, which was created to consolidate and centralize NASA's engineering resources; holding a "Lessons Learned Made Easy" series each Wednesday in the library lounge; offering periodic stories at Goddard sessions; and conducting a formal "Lessons Learned" forum after each project to incorporate comments in the project files.

Goddard also is involved in the Landsat Legacy project. The project is a joint collaboration with the NASA Landsat Project Science Office (LPSO), the U.S. Geological Survey (USGS), and the Goddard Library to create a public archive of essential Landsat documentation. So far this year, the Landsat Legacy Team has orchestrated and video-recorded four group oral histories with veterans of the Landsat project, including scientists, engineers, and project managers. Transcription of the first oral history conducted in November 2005 has been completed by two independent transcription services. The transcripts were received in June and are currently under review by the Landsat Legacy Team. Additionally, the poster and paper—"Landsat Legacy: Tracking down three decades of knowledge"—were presented last fall at the Pecora 16 Conference: "Global Priorities in Land Remote Sensing" in Sioux Falls, South Dakota. This year, USGS has continued Landsat Legacy outreach efforts with a poster at the Association for American Geographers meeting in March 2006; they also have plans to disseminate Landsat Legacy literature at other professional meetings throughout the year.

## Jet Propulsion Laboratory

This 20 July marks the 30th anniversary of the first landing on Mars, and JPL's Mars outreach organization has been working hard on a Web site commemorating the event. It will contain images, documents, and video interviews with many JPL people who were involved with the mission. The video interviews are being edited down to 3- to 5-minute Flash-based movies, but the full-length videos will be archived for future use.

JPL history and archival staff are currently planning on organizing a celebration this fall for the 70th anniversary of the first rocket tests conducted by Frank Malina and his colleagues in the Arroyo Seco. Erik Conway has relocated drawings of their early November 1936 test setup, and a reproduction may be built in order to reenact their tests (without the explosions). A date for the event has not been chosen yet.

The year 2006 marks the 10th anniversary of the Historical Photo of the Month (HPoM) at JPL. A historical image is posted each month on the JPL Archives Web site and is directly accessible at <http://beacon.jpl.nasa.gov/Histphotos/hpom/HistPhoto.htm>. JPL Archivist



April 2006 Historical Photo of the Month from the JPL Archives Web site. This artist's rendering of a Sergeant missile on a mobile launcher originally appeared on the cover of a 1960 Sergeant brochure.

(Sergeant Brochure Cover, photograph number M-2638, <http://beacon.jpl.nasa.gov/Histphotos/hpom/m-2638.html>)

Julie Cooper is still selecting photos, finding supporting documents, and writing captions that tell the story behind the images (134 so far) to educate JPL staff and the public about the history of JPL in a fun way.

There is a wide variety of subject matter among the historical photos—site photos, pre-NASA missile work, portraits, group photos, social events, spacecraft assembly and testing, lunar and planetary images, VIP visitors, and so on. Since there are many other good sources of planetary images that can be found online, the historical photos now concentrate on images and stories about the people and projects of JPL from the 1940s to the 1990s. You may not find the popular images that everyone has seen in books, Web sites, and documentaries, such as Pickering, von Braun, and Van Allen holding up Explorer, or the lounging rocketeers in 1936. You will find images that have not been seen for decades but help to tell an interesting story.

Each month when a new photo is posted, an e-mail announcement goes out to JPL. They usually get one or two comments or questions about the photo, such as, “Oh, so cool! You did it again! Thanks”; “We discussed it in our . . . meeting yesterday”; “These are great photos! . . . I know that lots of us enjoy it as much as I do . . . keep up the good work”; “Is it ok to send these photos to friends off-Lab?” and “That’s me back in 1960, when I had hair!” People are encouraged to contact Julie if they have more information about the photos, and corrections are welcome.

Each photo will soon be added to the online archives catalog, and the full text of captions will be searchable. A thumbnail will be displayed with the catalog record. Various sizes of JPG files will be available for download from the digital media archive, a module of the catalog used for online display of PDF and image files.

For his Mars book project, Conway is currently researching the Mars Rover/Sample Return (MRSR) mission definition studies of the late 1980s. The MRSR studies were one of two efforts that contributed technologies and ideas to the Mars Pathfinder mission. The other was the Mars Environmental Survey (MESUR) planning, which began at Ames Research Center in the late 1980s. MESUR envisioned sending 20 identical small landers to Mars to collect atmospheric and seismic data before being de-scoped to the single Mars Pathfinder flight.

Finally, Conway’s atmospheric science history manuscript is complete. He is currently waiting for some images requested from various NASA Centers to arrive before making the final deliverable. He wishes to thank everyone who has supported this work over the years.

## Johnson Space Center

A collaborative effort between the NASA Johnson Space Center (JSC) History Office and the Center’s video production area resulted in the capture of firsthand experiences, lessons learned, and related information from STS-1 pilot Robert L. Crippen. The JSC teams worked together to collect more than 3 hours of recorded information that will prove useful for future Space Flight Awareness productions and Public Affairs Office-related videos. The information from Crippen provides in-depth, historical insight into his pioneering accomplishments as an Apollo-era astronaut, a Shuttle commander, a program

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*News from Headquarters and the Centers (continued)*

manager, a leader at NASA Headquarters, and Director of the Kennedy Space Center. The availability of Crippen's broadcast-quality video has been noted as a major enhancement to the NASA History Collection.

The History Office recently delivered another set of oral history interviews and materials to the NASA History Collection, housed at the University of Houston-Clear Lake. These interviews, as well as the oral history interviews obtained during the recent National Advisory Committee for Aeronautics (NACA) reunion, are now available online at <http://www.jsc.nasa.gov/history>.

In July, the JSC History Office team shared information on NASA history resources during a daylong workshop at Lee College in Baytown, Texas. This community college sponsored a program on "National History Day: In Pursuit of Excellence," which included historians, librarians, educators, and area residents. The team hosted two sessions, providing details of numerous NASA history resources accessible to students of all ages and interest levels. The team is preparing for an upcoming workshop on conducting oral history at the October meeting of the national Oral History Association in Little Rock, Arkansas.

## Kennedy Space Center

The Kennedy Space Center (KSC) Archives Office continued to support personnel researching historic documents related to Launch Complex 39 facilities. A variety of these facilities are being studied for possible Crew Exploration Vehicle (CEV) and Crew Launch Vehicle (CLV) modification. In addition, work has been done on the Engineering Development Studies and History file collection. Just over 2 linear feet of Mobile Launch Platform documents have been described thus far. The office also regularly exhibits its historical photographic collection for KSC employees. Current exhibits highlight Apollo 15, Gemini 10, and Mercury Redstone 4 missions. New on the archives Web page ([http://www-lib.ksc.nasa.gov/lib/archives\\_electronic.html](http://www-lib.ksc.nasa.gov/lib/archives_electronic.html)) is the document "Apollo/Saturn V MILA Facilities Descriptions."

## Marshall Space Flight Center

One project in which the Marshall Space Flight Center (MSFC) History Office has been engaged during the last few months involves locating some specific photographs from the Saturn era at Marshall. Of course, it is not hard to find photographs that depict the huge Saturn V stages or entire vehicles either being worked on at Marshall or ready for launch at Cape Canaveral. In fact, the Saturn story has been told many times using photographs that show the stages being transported, tested, or manufactured. The Saturn story also has been presented many times using relatively easy-to-find photographs of high-level Saturn/Apollo officials, like Wernher von Braun, standing by a Saturn stage.

More difficult to locate are photographs depicting everyday people working on the stages either at Marshall or at the Saturn contractor sites. We should not, however, blame the Saturn-era photographers. Quite naturally, a welder or engineer standing next to a huge Saturn stage or component looks minuscule in comparison. Photographs of engineers at their drawing boards or dealing with some relatively small Saturn components

are also sometimes difficult to find. There are, of course, unlimited numbers of grip-and-grins or of people mugging for the camera. But there are fewer photographs of people actually at work.

The Marshall history archive was reestablished nearly 20 years ago after a 14-year lapse in operation. Over the years, photographs of everyday people doing their jobs during the 1960s have been added to the archive one, two, or three at a time. Ironically, it is only within the last month or so that the historian has had the good fortune to acquire three small collections, totaling about 100 photographs, that really show the faces of Marshall Center employees working on the Saturn and other early vehicles. One collection was found in an un-indexed file drawer. Another was donated to the archives by a now-retired Marshall engineer. Another once belonged to a now-deceased technician. There are no doubt hundreds more photographs like these somewhere, either in shoeboxes in the closet or in trunks in the attic. Some are probably still in file cabinets that have not been opened for years in a lab or office area at Marshall. They are faces of the men and women who built the Saturn. They are the unique kind of find that a historian or archivist loves to discover.

## Stennis Space Center

Following the 40th anniversary celebration of the first rocket engine test at Stennis Space Center (SSC), the History Office received numerous photographs that were donated by individuals who worked at SSC during the construction of the site. These photographs are now being archived and preserved. The staff also obtained and planned to archive historical records from one of the test stands at SSC dating back to the early 1960s.

## ARCHIVAL UPDATE

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### Overview of International Relations Files in the NASA Headquarters Historical Reference Collection

—Jane H. Odom, Chief Archivist

In the Historical Reference Collection at Headquarters, researchers will find nearly 70 cubic feet of International Cooperation and Foreign Country files (from 1915 to the present). This series contains archival materials documenting U.S. cooperation and competition with foreign countries in space endeavors. Among the dozens of countries represented in the files are Australia, Canada, China, France, Germany, India, Indonesia, Israel, Japan, Portugal, Russia, Spain, and the United Kingdom. The general arrangement of this series is alphabetical by name of country and then chronological.

The files contain correspondence, memoranda, press releases, reports, photographs, news clippings and magazine articles, brochures, foreign-language materials, and a limited number of translations of foreign materials. The following descriptions of files on our International Space Station (ISS) partners provide a sense of the range of materials available in the series.

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*Archival Update (continued)*

The USSR files contain historical materials on spacecraft, launch vehicles, and satellites, including spy satellites, as well as materials on Soviet aircraft, missile development, launch facilities, the activities of the Soviet Academy of Sciences, U.S. and USSR cooperation in space, the Soviet response to the Strategic Defense Initiative (SDI), launch successes and failures, launch vehicle design, and use of animals in space. Of particular interest is a memo from President John F. Kennedy in early November 1963 tasking the NASA Administrator with developing a substantive program of cooperation with the Soviet Union in the field of outer space. The files also contain analyses of the space race, including a statement from President Lyndon Johnson in June 1965 asserting that the gap in manned spaceflight had closed with the success of the Gemini 4 flight and the progress of the Apollo Program. Other highlights of the series include summaries of papers presented at the United Nations Conference on Exploration and Peaceful Uses of Outer Space in 1968; materials on the Soviet space year in review and on the reusable shuttle Buran; and a speech by former NASA Administrator Thomas Paine marking the 30th anniversary of the Sputnik launch.

In the Japan files, researchers will find information on communication, scientific, and meteorological satellites; development of an ISS module; activities of the Institute of Space and Astronautical Science; and activities of the National Space Development Agency of Japan. The files on satellites and probes include material on several probes sent to study Halley's comet. Also documented in these files is a July 1978 trip by Deputy Administrator Alan Lovelace to Japan to discuss international cooperation. These meetings resulted in the formation of the Joint NASA/Space Activities Commission of Japan Study Group. In their final report a year later, the group recommended over 30 possible experimental and space science areas for cooperation.

The European Space Agency (ESA) files contain documents detailing the organization's formation, history, programs, and projects; satellites and spacecraft; participation in the ISS program; ESA cooperation with Japan and Germany; European Community space policy; the European military satellite program; and the Strategic Defense Initiative. Among the notable items in the ESA files is a speech in early 1971 by Theo Lefevre, president of European Space Conference, regarding U.S. and European cooperation in the post-Apollo era. Lefevre presented this paper at the second meeting of the conference, which was held in Washington, DC, and included European Space Conference and senior U.S. agency officials.

In the Canada files is information on the activities of the Canadian Space Agency, including the development of their space program, Canada's cooperation with the Soviet Union, the development of the remote manipulator arm for the ISS, and the Quebec aerospace industry. The files include an interview from April 1994 with Mac Evans discussing Canada's space plans. Evans was Canada's Special Advisor on Space at the time and, later that same year, was named President of the CSA.

Indeed, the History Division holds a treasure trove of historically valuable information on NASA's efforts at international cooperation and, more broadly, on international space activities. We urge interested researchers to schedule an appointment to come in and examine this material.

## OTHER HISTORY NEWS

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### National Air and Space Museum (NASM), Division of Space History (DSH)

NASM's Division of Space History curators and fellows continue to publish and present papers at a rapid pace. Recent publications, papers, and related activities by DSH staff include the following.

Dominick A. Pisano, F. Robert van der Linden, and Frank H. Winter have published *Chuck Yeager and the Bell X-1: Breaking the Sound Barrier* (New York: Abrams, 2006). It deals with one of NASM's prize artifacts in the Milestones of Flight gallery, in which Chuck Yeager was the first person to exceed the speed of sound.

An important book by Paul Ceruzzi (DSH), *A History of Modern Computing* (MIT Press), has just appeared in a Greek edition. The book has now appeared in Greek, German, and Italian translations; we are still waiting for a Japanese edition, which was promised many years ago.

James R. Fleming, NASM's Lindbergh Chair holder, lectured on "The Pathological History of Weather and Climate Control" at Johns Hopkins University on 30 March. He has studied the history of the public and scientific view of climate change from the last century to the current period and is continuing that research at NASM.

David DeVorkin (DSH) gave an invited talk at Yale University on Friday, 28 April 2006. His topic was "Harvard Astronomy in the Wake of Harlow Shapley, and Dorrit's Fate." He spoke about how Harvard's astronomy program was deemed to be broken by a visiting committee headed by Robert Oppenheimer and what had to be done to fix it, restoring it to world-class status. This is part of a much larger study of how succession rites at major observatories became a referendum on the profession itself between the years 1920 and 1966.

Martin Collins (DSH) presented a paper, "Innovation, the Military, and Corporations: Research Issues after World War II," at the Tensions of Europe Conference in Lappeenranta, Finland, 24–28 May 2006. The conference, subtitled "Technology and Rethinking European Borders," was the culmination of a multiyear collaborative research project by scholars in Europe, the United States, and other countries, and was meant to stimulate further investigations into the role of technology in the shaping of modern Europe.

Several DSH curators and a Guggenheim fellow have published in *Quest: The History of Spaceflight Quarterly* 13, no. 2 (2006), including Roger D. Launius, "The Space Shuttle 25 Years On: What Does It Mean To Have Reusable Access to Space?" pp. 4–20; Allan A. Needell, "Saving a Saturn V: A Case Study in Artifact Preservation," pp. 36–66; Valerie Neal, review of "Sky Walking: An Astronaut's Memoir," p. 62; and Nicholas de Moncheaux (NASM Guggenheim postdoctoral fellow), review of "Testing the Limits: Aviation Medicine and the Origins of Manned Spaceflight," p. 63. The journal has approximately 1,400 subscribers.

Mandy Young and Toni Thomas (DSH) have distributed a spacesuit survey to every borrower (and about 12 potential borrowers) of spacesuits and/or components to examine exhibit and environmental conditions, establish who is monitoring the safety of the exhibits, determine

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*Other History News (continued)*

estimated visitorship over the next five years, and ask about visitor constituencies served by these fragile, valuable spacesuits. NASM will use the results to establish a long-term plan to optimize public access while preserving them for the future.

The 2006 joint meeting of the Organization of American Historians (OAH)/National Council on Public History (NCPH) took place at the Washington Hilton on 16–19 April. A session on “From Earth to the Moon: Interpreting the Material Culture of the American Lunar Landing and its Legacy” involved Roger D. Launius (DSH), who presented “Abandoned in Place: Interpreting the Material Culture of the Space Race,” concerning the fates of historical sites associated with Apollo; Margaret Weitekamp (DSH), who presented “‘La Mayor Conquista de Todos Los Tiempos’: International Medals Commemorating the American Moon Landing”; and Anne C. Goodyear (National Portrait Gallery) who presented “Art and the ‘Stuff’ of Space Exploration.” Howard E. McCurdy (American University) chaired the session, and Jannelle Warren Findley (Arizona State University) offered the comment.

Numerous DSH staff participated in the Space Day activities at the Udvar-Hazy Center on Friday, 5 May 2006. They offered various artifact presentations, served as hosts for dignitaries, and participated in book signings and other special activities. More than 15,500 people attended this annual event.

The Division of Space History has had two full sessions and two separate papers accepted for the Society for the History of Technology annual meeting in November 2006. No fewer than six members of the department will be presenting at this significant national history conference.

## Passing of Bill Leary

University of Georgia History Professor William M. Leary passed away on 24 February 2006. His funeral service was held 11 March 2006 at the University of Georgia Chapel in Athens, Georgia. Dr. Leary was born in 1934 in Newark, New Jersey, and served in operations in the U.S. Air Force during the Korean War. He received his doctorate in American history from Princeton University and taught at a variety of universities, including Princeton, San Diego State University, and the University of Victoria in Canada. He spent 32 years of his career at the University of Georgia, retiring in 2005 as the E. Merton Coulter Professor of History.

A prolific and insightful writer, Dr. Leary won numerous awards and honors over the course of his career, including the AIAA History Manuscript Award in 1973 and the Central Intelligence Agency’s (CIA’s) Studies in Intelligence Award in 1995. He held the Charles A. Lindbergh chair at the National Air and Space Museum from 1996 to 1997. Dr. Leary authored and edited books on a broad range of topics, including covert CIA operations in Asia, commercial aviation in China, U.S. military and commercial aviation, and U.S. diplomacy and military history during World War II and the Cold War. For the NASA History Division, he published *We Freeze to Please: A History of NASA’s Icing Research Tunnel and the Quest for Safety* (NASA SP-2002-4226). Dr. Leary’s last publication with NASA was an article, “Sharing a Vision: Juan Trippe, Charles Lindbergh, and the Development of International Air Transport,” in *Realizing the Dream of Flight*:

*Biographical Essays in Honor of the Centennial of Flight, 1903–2003*, ed. Virginia Dawson and Mark Bowles (NASA SP-2005-4112). Readers wishing to see one of Dr. Leary's last recorded public presentations may wish to consult this volume as it includes a DVD of the *Realizing the Dream of Flight* symposium in which Dr. Leary participated.

## **CALLS FOR PAPERS AND ANNOUNCEMENTS**

The Center for the History of Business, Technology, and Society invites papers for a symposium on "Technological Innovation and the Cold War" on 9–10 March 2007 at the Hagley Museum and Library in Wilmington, Delaware. The conference's principal question is the impact of Cold War-era military innovations on postwar American economic growth. Papers could consider the transition from military to commercial applications of technological initiatives in, for example, aerospace, communications, material science, propulsion, instrumentation, or computing. Failure or long delays in transferring technologies are of special interest. Given the state's central role in military procurement, papers must consider the relationships between corporations or research institutes and state agencies in the design and development of new technologies. An opening plenary with Philip Scranton (Rutgers University and Hagley Library) and John Krige (Georgia Institute of Technology) will establish the theoretical and conceptual foundations for understanding this important subject in the United States, Great Britain, and continental Europe. Proposals should be no more than 500 words and accompanied by a short CV. To be considered, proposals must be received via mail, fax, or e-mail by Monday, 30 October 2006. Travel support is available for those presenting papers at the conference. To submit a proposal or to obtain more information, contact Carol Lockman, Hagley Museum and Library, P.O. Box 3630, Wilmington, DE 19807, 302-658-2400, ext. 243; 302-655-3188 (fax); [clockman@Hagley.org](mailto:clockman@Hagley.org).

The 2007 annual meeting of the Business History Conference (BHC) will take place Friday and Saturday, 1–2 June, in Cleveland, Ohio, at the Weatherhead School of Management of Case Western Reserve University. The theme for the conference is "Entrepreneurial Communities," defined broadly in scope and scale. The entrepreneur is often thought of as a lone innovator, but how often does an entrepreneur really act alone? How and when does entrepreneurial activity rely on the input of inventors, venture capitalists, lawyers, accountants, marketing specialists, government actors, laborers, and others? We are interested in papers that explore the roles of these actors and the broader social context in which entrepreneurial activity takes place. These include, but are not limited to, geographic (local, regional, national, or international), political, economic, social, and cultural (including the roles of race, class, ethnicity, religion, and gender) aspects of entrepreneurial communities. We are interested in papers that consider how firms and other groups (within, between, or outside particular firms) and society as a whole have organized themselves to foster or inhibit entrepreneurial activity. Finally, in keeping with longstanding BHC policy, the committee also will entertain submissions not directly related to the conference theme. The deadline for receipt of all proposals is 15 October 2006. Notification of acceptances will be sent by January 2007. For more information on the conference and proposal submission procedures, see <http://www.h-net.org/~business/bhcweb/annmeet/call07.html>.

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*Calls for Papers and Announcements (continued)*

The American Association for the History of Medicine (AAHM) invites abstracts for papers in any area of medical history for its 80th annual meeting, to be held in Montreal, 3–6 May 2007. The association welcomes submissions on the history of health and healing; medical ideas, practices, and institutions; and illness, disease, and public health. The AAHM uses an online abstract submissions system. It is located at <http://histmed.org>. The deadline is 15 September 2006. For more information, contact Philip M. Teigen, Program Committee Chair, [pteigen@nih.gov](mailto:pteigen@nih.gov).

The Catocin Center for Regional Studies located at Frederick Community College will host the 74th meeting of the Society for Military History. The conference will take place 19–22 April 2007 in historic Frederick, Maryland, which is located 45 miles west of Washington, DC. The theme for the conference will be “Crossroads of War.” The Program Committee seeks papers and panels that address those intersections during the wartime experience between the military and other sectors of society, including, but not limited to, the home front, the economy, politics, and constitutionalism, as well as culture. This topic includes both the impact of the military on society and the influence of societal factors in shaping and defining the military experience during war. The Program Committee also desires papers and panels dealing with any facet of military history. The deadline for this call for papers is 15 October 2006. For further information, visit the Web site at <http://catocincenter.frederick.edu/>.

The 100th annual meeting of the Organization of American Historians will be held in Minneapolis, 29 March–1 April 2007. In addition to commemorating the centenary of the organization, the meeting is dedicated to the theme of “American Values.” The United States, from its beginnings, has justified its existence and its role in the world in terms of universal values but has, at the same time, laid claim to a particular set of American values. These values, however, have been contested; different social groups have offered different versions, they have changed over time, and they have been used to justify exclusion from as well as inclusion in civic life for those living within American boundaries. Many values presented as national derive from, or lay claim to, sets of values that transcend American boundaries. To deepen the puzzle further, it is often unclear how these values—universal or national—actually shape national or private practice or behavior. The program committee invites the submission of panels and presentations that explore this theme as well as other issues and themes in American history. We prefer to receive proposals for complete sessions but will consider individual paper proposals as well. Proposals should be submitted electronically beginning 1 October 2005. For proposal submission procedures and requirements and additional information on the conference, see <http://www.oah.org/meetings/2007/>.



## PUBLICATIONS

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### NASA Publications

*Science in Flux: NASA's Nuclear Program at Plum Brook Station, 1955–2000* (NASA SP-2006-4317), by Mark D. Bowles. This book explores the broad history of the nuclear research program at NASA's Plum Brook Station. It is a tale of nuclear research, political change, and the professional culture of the scientists and engineers who devoted their lives to the facility for over 15 years. In the attempt to develop nuclear rockets, and the challenge to clean up the radioactive ruins from the site that housed the search, lies the story of one of the most powerful test reactors of its day. Its history reveals the perils, potentials, and challenges of that nuclear quest and science in flux.

*Rockets and People: Volume II* (NASA SP-2006-4110), by Boris Chertok, edited by Asif Siddiqi. The second volume of the four-part series of memoirs provides insight into the post-World War II Soviet missile and space program. Chertok discusses his return to the Soviet Union in 1947, the reproduction of the German V-2, and the development of a domestic Soviet rocket industry at the famed NII-88 institute in the Moscow suburb Podlipki (now called Korolev). The memoir covers numerous Soviet technological feats, including the development of the world's first intercontinental ballistic missile, the launch of Sputnik, and the first generation of probes sent to the Moon.

*Unconventional, Contrary, and Ugly: The Story of the Lunar Landing Research Vehicle* (NASA SP-2006-4535), by Gene Matranga, Wayne Ottinger, and Cal Jarvis. This monograph recounts the history of the Lunar Landing Research Vehicle (LLRV) from its inception through its service as a training tool at the Manned Spaceflight Center (now Johnson Space Center). Copies are available from the Dryden Flight Research Center History Office.

### Forthcoming NASA Publications

*Flights of Discovery: The History of the Dryden Flight Research Center*, by Lane E. Wallace. This history of the first 50 years at the NASA Dryden Flight Research Center captures the spirit of the role flight research has played in aeronautical research and development and provides insightful accounts of most of the major flight research projects from 1946 to 1996. The second edition is on schedule for publication in late 2006, in time for the Center's 60th anniversary.

*The Wind and Beyond: A Documentary Journey into the History of Aerodynamics in America, Volume II: Reinventing the Airplane*, edited by James R. Hansen, with Jeremy Kinney, D. Bryan Taylor, and J. Lawrence Lee. The second volume in *The Wind and Beyond* series discusses the airplane design revolution of the 1920s and 1930s and the quest for improved airfoils. The volume is slated for publication in 2006.

*Mission to Jupiter: A History of the Galileo Project*, by Michael Meltzer. This informative manuscript discusses the Galileo spacecraft project from its inception to its conclusion. It should be published in 2006.

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*Publications (continued)*

*Dictionary of the Space Age*, by Paul Dickson. This new book will augment and update *The Origins of NASA Names* (NASA SP-4402, 1975) by including terms not in common usage approximately 30 years ago, as well as etymological information. This book should be published in early 2007.

*Facing the Heat Barrier: A History of Hypersonics*, by T. A. Heppenheimer. This book documents the history of hypersonics research in great detail. It should be published by late 2006.

*Mars Wars: A Policy History of the Space Exploration Initiative*, by Thor N. Hogan. This provocative book argues that the failure of President George H. W. Bush's Space Exploration Initiative (SEI) was the result of a flawed policy process. The book should be published in 2007.

*Nose Up: High-Angle-of-Attack and Thrust Vectoring Research at NASA Dryden, 1979–2001* (NASA SP-2006-4534), by Lane Wallace. This monograph examines three different programs that explored high-angle-of-attack flight with the F-18 High Alpha Research Vehicle (HARV), the X-31, and the F-15 Advanced Controls Technology for Integrated Vehicles (ACTIVE). This publication should be published in 2006.

## New Non-NASA Publications

*Saturn V, the Complete Manufacturing and Test Records*, by Alan Lawrie with Robert Godwin (Ontario: Apogee Books, 2005).

*Return to Flight: Space Shuttle Discovery Photo Scrapbook*, by Dennis R. Jenkins and Jorge R. Frank, compilers (Cape Canaveral, FL: Specialty Press, 2006). This brief pictorial book on STS-114 provides some stunning photography that shows the Space Shuttle in ways that have never before been seen.

*Quest: The History of Spaceflight*, the quarterly journal dedicated to preserving the history of our industry, will soon release its third issue in volume 13. Articles include "Road to Mach 10: A History of the X-43A Test Program," "'Magical Thinking' in Human Spaceflight," "The Space Station: A Laboratory for Policy Sustainment," "The Changing Purpose of the Space Station," an interview with Shannon Lucid, a book review of *Riding Rockets—The Mike Mullane Story*, and short reviews of six new space books. Ordering information, along with a complete bibliography of all articles that have appeared in *Quest* since 1992, can be found at <http://www.spacebusiness.com/quest>.

## New NASA Web Sites and Electronic Resources

A new page covering the Congressional Space Medal of Honor is available at <http://history.nasa.gov/spacemedal.htm> on the Web.

An extensive set of NASA and even NACA organizational charts is available at <http://history.nasa.gov/orgcharts/orgcharts.html>.

*Wingless Flight: The Lifting Body Story*, by R. Dale Reed with Darlene Lister (SP-4220, 1997), is now online at <http://history.nasa.gov/SP-4220/sp4220.htm>.

*Wind and Beyond: A Documentary Journey into the History of Aerodynamics in America, Volume 1: The Ascent of the Airplane* (SP-2003-4409), edited by James R. Hansen, is now available at [http://history.nasa.gov/SP-4409/SP-4409\\_1.pdf](http://history.nasa.gov/SP-4409/SP-4409_1.pdf) on the Web.

Listings of oral history collections at NASA Headquarters and the Field Center history offices are available at <http://history.nasa.gov/oralhistory/ohcatalog.htm>.

*Dreams, Hopes, and Realities: NASA's Goddard Space Flight Center, the First Forty Years* (NASA SP-4312, 1999), by Lane E. Wallace. This richly illustrated book is a good overview of NASA Goddard's history. Special thanks to volunteer Chris Gamble, who formatted this publication for the Web. It is located at <http://history.nasa.gov/SP-4312/sp4312.htm>.

*The Birth of NASA: The Diary of T. Keith Glennan* (NASA SP-4105, 1993) is available at <http://history.nasa.gov/SP-4105/sp4105.htm>.

*Innovation in Flight: Research of the NASA Langley Research Center on Revolutionary Advanced Concepts for Aeronautics* (NASA SP-2005-4539), by Joseph R. Chambers. This monograph is available online only and may be accessed at [http://history.nasa.gov/monograph39/mon39\\_a.pdf](http://history.nasa.gov/monograph39/mon39_a.pdf).

### *Critical Issues in the History of Spaceflight*

Edited by Dr. Steven J. Dick and Dr. Roger D. Launius  
(Washington, DC: NASA SP-2006-4702, 2006, pp. 659 + xi, hardcover)

An engrossing read, *Critical Issues in the History of Spaceflight* is a volume consisting of scholarship on the current state of the discipline of space history presented in a joint NASA and NASM conference in 2005. The essays presented in the book examine such issues as the motivations for spaceflight and the necessity, if any, of human space exploration. Though a highly informative and scholarly volume, *Critical Issues in the History of Spaceflight* is thoroughly enjoyable for readers of all different backgrounds who share an interest in human spaceflight.

**How to order:** Please contact the NASA Center for AeroSpace Information, 7121 Standard Drive, Hanover, MD 21076, 301-621-0390, [help@sti.nasa.gov](mailto:help@sti.nasa.gov). Online Order Form: <https://www.sti.nasa.gov/cgi-bin/ordersti.pl>. Document ID # 20060022843. Title: *Critical Issues in the History of Spaceflight*. The price code is EA4 (within the U.S., \$25.00 plus \$2.00 shipping and handling; outside the U.S., \$40.00 plus \$17.00 S&H).

This book also may be purchased from the NASA Information Center, NASA Headquarters, 300 E Street SW, Room 1H23, Washington, DC 20546-0001, 202-358-0000. Order NASA SP-2006-4702.

## CONTRACTS

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### New NASA History Projects in Progress

The History Division has awarded a contract to the National Park Service (NPS) to revise, augment, and update the *Wind Tunnels of NASA* (NASA SP-440, 1981), written by Donald D. Baals and William R. Corliss and published in 1981 by the NASA Scientific and Technical Information Branch, Washington, DC. Dr. Larry Lee of the NPS is expected to complete the research and writing on this project. The revised manuscript shall cover all of the wind tunnels that have been designed, built, and operated by or for the National Advisory Committee for Aeronautics (NACA) and NASA. This includes wind tunnels that have been modified, relocated, demolished, or are no longer being utilized, as well as wind tunnels still in use today. The publication shall serve as a technical resource for future researchers to determine the eligibility of existing wind tunnels for listing on the National Register of Historic Places. The NASA Historic Preservation Office is sponsoring the project.

### Upcoming Contracts

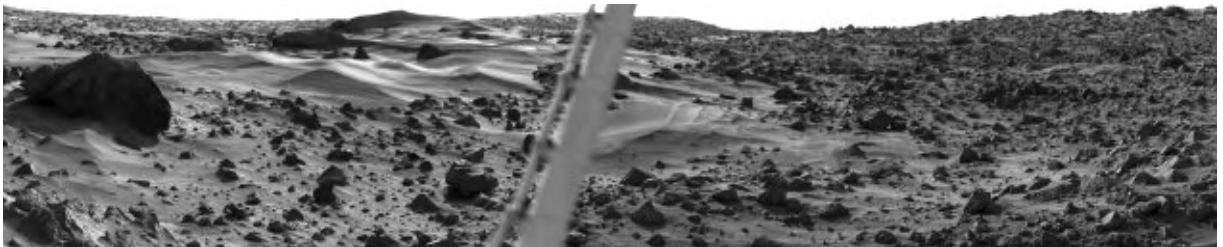
The History Division recently solicited proposals for the preparation of a book on *A History of NASA's Deep Space Navigation*. The book shall focus on the history of deep space navigation since NASA's inception with some background discussion of antecedent thoughts and efforts. The goal of this research project is to produce a roughly 400-page manuscript history on the views of scientists, engineers, policy-makers, enthusiasts, and the general public regarding deep space navigation. The history should include the latest developments in deep space navigation, such as very long baseline interferometry using both Deep Space Network techniques and those developed at the National Radio Astronomy Observatory. The NASA History Division shall administer this project jointly with the Science Mission Directorate.

The History Division plans to release a solicitation for the preparation of a scholarly book-length manuscript on *A History of NASA's International Relations*. The book shall focus on the time period since NASA's inception but also shall include historical detail on previous scientific endeavors, such as the International Geophysical Year (IGY). The publication shall include consideration of the cultural, political, social, and personal factors that have shaped NASA's approach to international themes. The manuscript shall document the history of international cooperation on specific projects, including the Deep Space Network and other tracking stations; human spaceflight missions such as the Apollo-Soyuz Test Project, Space Shuttle, and the International Space Station; and space science missions ranging from the French FR1 and EOLE projects in the 1960s to Earth resources satellites, Cassini-Huygens, and other missions today. The NASA History Division, part of the Office of External Relations, shall administer this project.

## AEROSPACE HISTORY IN THE NEWS

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NASA recently celebrated the 30th anniversary of the Viking program, which featured the first successful robotic operations on the surface of Mars. The Viking 1 and 2 missions collected thousands of images of the planet and completed the first measurements of the Martian atmosphere and surface. The missions began with the launch of Viking 1 on 20 August 1975; the spacecraft reached Mars's orbit 10 months later. The Viking 1 lander separated from its orbiter and touched down on Mars at Chryse Planitia on 20 July 1976. The Viking 2 lander followed approximately six weeks later, touching down at Utopia Planitia on 3 September 1976. Originally intended to operate for only 90 days, the Viking 1 and 2 landers continued to transmit data about the Martian surface, atmosphere, and chemical content of the soil for six years, ending transmissions in the early 1980s.



Taken by Viking 1 on 3 August 1976, this image provides a panoramic view of rocks and wind-blown sand dunes on the Martian landscape. (Image number PIA00393; from JPL Planetary Photojournal)

The Viking Project involved several NASA Centers. Langley Research Center managed the overall project, while the Jet Propulsion Laboratory built the orbiters and managed the science mission. The mission took off from Kennedy Space Center using Titan/Centaur launch vehicles designed at Lewis Research Center (now Glenn Research Center). Lockheed Martin served as the prime contractor, and several university scientists helped to analyze the data returned from the mission.

Langley Research Center kicked off NASA's anniversary celebration of this important mission with a conference on 22 June titled "Mars: Past, Present, and Future." The symposium featured several members of the original Viking team and included segments that focused on the legacy of the Viking mission, current robotic Mars missions, and future plans for robotic and human exploration of the Red Planet. For more information on Viking and the anniversary, including links to photographs of Mars and transcripts and videos of interviews with the key individuals involved in the mission, please visit <http://www.nasa.gov/centers/langley/events/viking30.html>. JPL also developed an informative Web site to commemorate the event and provide further information on the Viking program; see <http://www.jpl.nasa.gov/news/spotlights/200607-viking.cfm>.



## UPCOMING MEETINGS AND EVENTS

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15–20 August 2006: The International Committee for the History of Technology (ICOHTEC) will hold its 33rd symposium, “Transforming Economies and Civilizations: The Role of Technology,” in Leicester, United Kingdom. For more information on the symposium, see <http://www.icohtec.org/>.

14–16 September 2006: University College London’s School of Slavonic and East European Studies will host a conference on “The Relaunch of the Soviet Project, 1945–1964.” This conference will examine the political, social, and cultural history of the late Stalinist and Khrushchev periods. For more information, visit <http://www.homepages.ucl.ac.uk/~tjmsbch>.

19–21 September 2006: The American Institute of Aeronautics and Astronautics will hold its Space 2006 Conference, titled “The Value Proposition for Space Security, Discovery, Prosperity,” at the San Jose Convention Center in San Jose, California. The conference will address a wide array of topics, including technical, economic, and policy themes, to provide a forum to discuss “the value proposition for space.” Information about the meeting is available at <http://www.aiaa.org/content.cfm?pageid=1>.

12–16 October 2006: The Society for the History of Technology annual meeting will be held at the Imperial Palace in Las Vegas, Nevada. Information about the meeting is available at <http://shot.press.jhu.edu/>.

25–29 October 2006: The Oral History Association will hold its annual meeting at the Peabody in Little Rock, Arkansas. For more information, see [http://www.dickinson.edu/oha/org\\_am.html](http://www.dickinson.edu/oha/org_am.html).

1–3 November 2006: The U.S. Air Force Academy’s Department of History will hold its 21st Military History Symposium on the academy grounds in Colorado Springs. This year’s theme is “Harnessing the Heavens: National Defense through Space.” For more information, visit the Web site at <http://www.usafa.af.mil/df/dfh/>.

2–5 November 2006: The History of Science Society will hold its annual meeting in Vancouver, British Columbia. For more information about the meeting, see <http://www.hssonline.org/society/index.html>.

8–12 November 2006: The Film and History League Conference, titled “The Documentary Tradition,” will be held at the Dolce Conference Center in Dallas, Texas. The conference will focus on the use of documentary films to win hearts and minds during the Cold War. For more information, see <http://www.filmandhistory.org>.

4–7 January 2007: The American Historical Association will hold its 121st Annual Meeting in Atlanta, Georgia. For more information about the meeting, see <http://www.historians.org/annual/2007/index.cfm>.

20–21 March 2007: The American Astronautical Society will hold its 45th Robert H. Goddard Memorial Symposium at the University of Maryland University College, Inn and Conference Center, in Adelphi, Maryland. For information, call 703-866-0020.

1–4 April 2007: The 2007 Mutual Concerns of Air and Space Museums Seminar will be held in at the San Diego Air and Space Museum in San Diego, California. The National Air and Space Museum Web site will feature information about the 2007 seminar in the near future.

19–22 April 2007: The Catoctin Center for Regional Studies located at Frederick Community College will host the 74th meeting of the Society for Military History. The theme for the conference will be “Crossroads of War.” For more information about the conference, see <http://catoctincenter.frederick.edu/conferences.html>.

19–22 April 2007: The fourth annual Cultural Studies Association Conference will be held at George Mason University in Arlington, Virginia. The conference this year will feature plenaries on the culture of science and technology, cultural studies and the social sciences, and global cities and citizenship. For more information, see [http://www.csaus.pitt.edu/frame\\_home.htm](http://www.csaus.pitt.edu/frame_home.htm).

3–6 May 2007: The American Association for the History of Medicine will hold its 80th annual meeting in Montreal, Quebec. For more information, see <http://histmed.org>.

1–2 June 2007: The Business History Conference will hold its annual conference at Case Western Reserve University in Cleveland, Ohio. The theme of the conference is “Entrepreneurial Communities.” For more information, see <http://www.hnet.org/~business/bhcweb/annmeet/call07.html>.

## IMAGES IN SPACE HISTORY

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Pictured above are three women cosmonauts at Tyura-Tam on 16 June 1963 prior to the launch of Vostok 6. Chosen from 400 women candidates competing for five spots in the Soviet space program, these particular women were noted for their significant aviation and parachuting skills. Left to right, they are Valentina Ponomareva, backup Irina Solovyeva, and prime crewmember Valentina Tereshkova. State Commission Chairman Georgiy Tyulin (left) and Strategic Missile Forces Commander-in-Chief Sergey Biryuzov are standing behind the women in the picture above.

The Vostok program, which paralleled NASA's Mercury space project, was designed to demonstrate Soviet mastery in spaceflight, especially over the Americans. The Soviets had already bested the Americans with Sputnik and the sending of Yuri Gagarin into orbit. With the sixth Vostok mission, the goal once again was to stress Soviet and socialist dominance.

Tereshkova, who became the first woman in space on 16 June 1963, was selected for her Vostok 6 flight not only for her aviation skills, but for her good moral standing and her devotion to the Communist cause. Serious contention over who would best serve as Russia's first woman in space emerged in the months prior to the crew selection. Born in the Yaroslav region of the upper Volga on 6 March 1937, Tereshkova was an active member of her local Young Communist League and reflected the Soviet ideal of womanhood. Tereshkova's primary competition was her fellow cosmonaut Valentina Ponomareva, an excellent pilot and highly skilled technically. Many in the government, however, thought that Ponomareva was too headstrong and did not best represent the ideal Communist woman; also, she was a mother, and Soviet leaders found the idea of putting a mother's life at risk unacceptable. On 21 May 1963, Soviet officials announced the decision to send Tereshkova into space.

(Center: HQ; Center number: womencosmonauts; GRIN database number: GPN-2002 000173)

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