



FROM THE CHIEF HISTORIAN



Plans for the Societal Impact of Spaceflight Conference, first highlighted in the May 2004 newsletter as part of the History Division strategic plan, are now complete. The meeting will be held 19–21 September 2006 at the Smithsonian’s Hirshhorn Museum, just a few blocks from NASA Headquarters, and even closer to our cosponsor, the National Air and Space Museum Department of Space History. The conference Web site, with abstracts and further information on logistics, will be posted soon at <http://history.nasa.gov/>.

Planning for this meeting has been very interesting. “Societal Impact of Spaceflight” is an enormous subject, and the attempt to bring some order to it has been a challenge. You can see the result in the full program printed elsewhere in this newsletter. It was obvious to us that certain discrete landmark events had impacts, such as Sputnik, the Apollo Moon landings, and the Shuttle accidents. But exactly what were those impacts? It was equally obvious that there have been commercial and economic impacts, in the form of the aerospace industry, technology transfer, Earth observing satellites, numerous spinoffs, and a variety of other areas. But can those impacts be quantified? More generally, there is no doubt that satellites have had an impact on national security, the environmental movement, weather, navigation, and communications. But historical research on these subjects is woefully lacking. Then there are social impacts: What impact has space exploration had on education, on civil rights, and on the localities wherein the space enterprise is undertaken? And what about cultural impacts—the impact of the images flowing from Hubble, Chandra, and numerous other space probes, not to

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NASA HISTORY PROGRAM REVIEW AT MARSHALL SPACE FLIGHT CENTER

—Glen Asner

History and archival personnel from across NASA met in Huntsville, Alabama, 3–6 April 2006, for the annual NASA History Program Review. Nadine Andreassen coordinated meeting planning on behalf of the NASA Headquarters History Division. Mike Wright and Roena Love from Marshall Space Flight Center took care of local planning activities, including arranging informative tours of the U.S. Space and Rocket Center and Marshall Space Flight Center (MSFC) facilities. Reviews of Headquarters and Center historical and archival activities, as well as presentations on a broad range of space-related topics, took place at the Marshall Educator Resource Center and Training Institute, on the grounds of the U.S. Space and Rocket Center.

Dr. James Bilbro, Assistant Director for Technology at Marshall, opened the meeting with remarks of enthusiastic support for NASA’s Vision for Space Exploration and for preserving NASA history. A seasoned manager with a doctorate in optical sciences, Bilbro pointed to the history of China’s rise and fall as a maritime power in the 15th century as a lesson for modern-day America. China declined economically, diplomatically, scientifically, and culturally after it abandoned seafaring and moved toward isolationism. The United States would suffer a similar decline, fears Bilbro, if it chose to forego human space

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NASA History Review at Marshall Space Flight Center (continued)

exploration. For this reason, Bilbro promoted NASA's Vision for Space Exploration as a key to maintaining the cultural, scientific, and economic vitality of the United States.

Following an overview of the NASA History Program by Chief Historian Steven Dick, the first general session of the meeting focused on historic preservation. Tina Norwood, of the NASA Headquarters Cultural Resource Management (CRM) Program, gave a broad overview of the National Historic Preservation program and NASA's plans to protect historically significant infrastructure. Ralph Allen, Marshall's Historic Preservation Officer, explained efforts at Marshall to identify historic structures and to place eligible structures on the National Register of Historic Places. Audience members were impressed with the breadth of Marshall's assessment activities, which included an archaeological survey completed in 2006 and a 2004 survey of the "boneyard," an area of the Marshall site that contains an impressive amount of retired equipment.



A Saturn V rocket on the grounds of the U.S. Space and Rocket Center.



Historic Redstone Test Stand at the Marshall Space Flight Center.

After an engaging lunchtime presentation by James Hansen on his recent definitive biography of Neil Armstrong, *First Man*, participants were treated to a four-hour tour of the Marshall Space Flight Center. The tour included a visit to the Payload Operations and Integration Center, which coordinates all science payloads for the International Space Station, and to the National Center for Advanced Manufacturing. Among the most memorable aspects of the tour were visits to two national landmarks, the historic Redstone Test Stand and the Solid Rocket Motor Structural Test Facility, which was used to test clustered engines during the Apollo era, including the S-IB stage of the Saturn launch vehicle.

Presentations on the second day ranged from discussions of archival resources in the Huntsville area and the history of Marshall during the civil rights era to the role of history in current NASA operations. Michael E. Baker, the Command Historian of the U.S. Army Aviation and Missile Life Cycle Management

Command, gave an entertaining presentation on his career as an Army historian and his experience developing historical material for the Web. Andrew Dunar, Chair of the Department of History at the University of Alabama, Huntsville, discussed the steadfast commitment of Marshall's leaders in the early 1960s to civil rights, as well as the shortcomings of the Center in implementing equal opportunity programs in the 1960s and 1970s. An afternoon session included presentations by NASA engineer Ken Cooper on his efforts to capture the "living history" of NASA's Exploration Systems Mission Directorate and by former History Division intern Giny Cheong on records management within NASA's Office of Program Analysis and Evaluation. Irene Wilhite and Anne Coleman gave lively presentations on archival resources and space collections in the Huntsville area, including Wernher von Braun's archives and the Saturn Restoration Project.

Konrad Dannenberg's discussion of Wernher von Braun's rocket team was among the most enlightening presentations of the meeting. A rocket engine specialist who first began working under Von Braun at the historic rocket test site Peenemünde in 1940, Dannenberg was a member of the team captured at the end of World War II and transferred to Fort Bliss, Texas, as part of Project Paperclip. At the Army's Redstone Arsenal in Huntsville, he helped develop the Redstone and Jupiter missile systems in the 1950s. With the establishment of NASA and the Marshall Space Flight Center, Dannenberg became Deputy Manager of the Saturn Program and remained a contributor to the space program until his retirement in 1973. Dannenberg's experiences have given him first-hand knowledge of the technologies and personalities that provided the backdrop to World War II, the Cold War, and the Space Age. Meeting attendees were fortunate to hear a personal account of the history of rocket development from one of the pioneers who made space flight possible.



Konrad Dannenberg, former Deputy Manager of the Saturn Program, with NASA Chief Historian Steven J. Dick.

Presentations by NASA personnel, including Mike Wright on von Braun's public image, Glen Asner and Steve Garber on the development of the Vision for Space Exploration, Jane Odom and Eleanor Blackman on NASA archives activities, and Eric Conway on Mars robotic exploration, gave a hint of the breadth of historical and archival activities currently underway at NASA. Archivist Leilani Marshall reminded us all that the preservation of historical knowledge depends first and foremost on the preservation of historical records. Leilani's discussion of disaster preparedness raised awareness of the importance of moving aggressively to develop plans to identify risks, prepare for emergencies, and cope with the aftermath of disasters.

The meeting ended with words of wisdom from Kent Carter, the Administrator for the National Archives Southwest Region and a supporter of NASA history who has graced us with his attendance at our Annual Program Reviews for many years. Kent reminded us that historians, archivists, and records managers provide the greatest benefit to the preservation of the historical record when we work together. While we are chagrined that Kent will no longer attend our annual meetings due to his impending retirement, we are grateful for the example he has set in reaching out to historians and archivists at NASA over the years. We would be wise to follow his example and maintain strong relationships with colleagues devoted to history and records preservation at the National Archives and Records Administration (NARA) and across NASA.

Finally, the meeting provided the opportunity to present the annual NASA History Award, given each year to a civil servant or contractor at one of NASA's Centers who has excelled in the promotion of NASA history inside and outside the Agency. Rebecca Wright of Johnson Space Center received this year's award, described in more detail on the next page. Congratulations, Rebecca!

REBECCA WRIGHT, WINNER OF THE 2006 NASA HISTORY AWARD

The annual NASA History Award is given to a civil servant or contractor at one of NASA's Centers who has excelled in the promotion of NASA history to our internal and external audiences. It is with great pleasure that the 2006 NASA History Award is granted to Rebecca Wright of Johnson Space Center (JSC).

Bringing with her a background in humanities, journalism, and technical publishing, along with nearly 10 years experience as a JSC contract employee, Rebecca joined the Johnson Space Center Oral History Project in 1997 and has since assumed the role of Project Coordinator. Center Director George Abbey initiated the Oral History Project in 1996 to capture history from the individuals who provided the country and the world with an avenue to space and the Moon.

Rebecca and her team of historians, technical specialists, and interns have researched, prepared for, and conducted over 650 interviews for JSC and Headquarters. One of her proudest accomplishments came in 2000 when Frank Culbertson, Phase 1 Shuttle-Mir Program Manager, commissioned an oral history and publication project to gather the human element of Shuttle-Mir, including lessons learned and project and technical experiences of people involved in the program. Under Rebecca's expert leadership, this project came to fruition with the publication of *Shuttle-Mir: The United States and Russia Share History's Highest Stage* (NASA SP-2001-4225), by Clay Morgan, a companion CD-ROM to the book and the Shuttle-Mir History Web site at <http://spaceflight1.nasa.gov/history/shuttle-mir>.

Rebecca and her team have interviewed numerous individuals who served in key roles during the Mercury, Gemini, Apollo, Skylab, and Shuttle programs. Other interviews have focused on specific topics such as management of the Agency, the activities of the National Advisory Committee for Aeronautics, the Columbia Shuttle disaster recovery, and the role of women in the NASA workforce. Transcripts of interviews are on the JSC History Web site at www.jsc.nasa.gov/history, and transcripts, audio recordings, and biographical information are located in the archives at the University of Houston-Clear Lake.



Dr. Steven J. Dick presenting Rebecca Wright with the annual NASA History Award at the NASA History Program Review, Huntsville, AL, 4 April 2006.

From the Chief Historian (continued)

mention Earthrise from the Moon, Apollo's whole Earth, and the pale-blue dot as viewed by Voyager? Where do ideology and space advocacy groups fit in? And what, by the way, is the difference between "social" and "cultural" impact? Some have asked why the conference is not called "Cultural Impact of Spaceflight" rather than "Societal Impact of Spaceflight." The distinction is more than semantic; huge international debates rage among anthropologists on the scope and differences of social and cultural anthropology.

Many of these themes, of course, overlap. Nevertheless, the program as planned is an attempt to bring some order to the discussion. We hope for lively discussion and a fully referenced proceedings is planned.

Why do this? Aside from scholarly interest, the societal impact of spaceflight is an important theme for a variety of reasons. If we are to have a vision for space exploration that is multigenerational and stretched across many Presidential administrations and Congressional sessions, taxpayers need to be vested in the process. Part of that vesting process is understanding how society was impacted by the Space Age in the past and how it will be impacted in the future if the Vision is carried out—and if we fail to carry it out. Historians and other scholars in the humanities and social sciences can play an essential role in analyzing past impact using the rigorous tools of their profession, rather than relying on the "spin" that every Federal agency puts on its impact in the never-ending search for resources.

Meanwhile, the volume of proceedings for our last conference, the 2005 meeting on Critical Issues in the History of Spaceflight, is completed and due for publication in June. This volume addresses themes including motivations for spaceflight, human and robotic exploration, NASA and external relations, access to space, and NASA cultures. In addition, a section on historiography analyzes the state of the art in space history. We believe this is a landmark volume—all 650 pages of it!

Finally, I am continually amazed at the variety of ongoing history activities, not only at Headquarters but also at our 10 NASA Centers. As evidenced by the Center reports in this newsletter and by the reports herein of our Annual History Review meeting (held this year at the Marshall Spaceflight Center in Huntsville), those activities are both broad and deep, if sometimes sporadic, depending on available resources. Interest in NASA history will only increase as we approach the 50th anniversary of the Space Age in 2007, followed by the 50th anniversary of NASA in 2008. It is my belief that both NASA and the Space Age have been important for the nation and the world over the last 50 years. Planning is now underway for conferences providing historical perspective on those landmark events.

Steve Dick

NEWS FROM HEADQUARTERS AND THE CENTERS

Headquarters

Nadine Andreassen coordinated planning on behalf of the Division for the Annual History Review in Huntsville, Alabama. The meeting was a great success due to the efforts of Nadine and the staff at Marshall Space Flight Center. Nadine continued to work on budgeting and contracts, and is beginning to plan in earnest for the Societal Impact of Spaceflight Conference, which will be held in September in Washington, DC. She continued to work on improving the History Division's marketing and outreach efforts.

Glen Asner, along with Steve Garber, continued to work on a history of the formation of the Vision for Space Exploration. Glen and Steve completed all of their oral history interviews and moved into the final stages of writing for the project. In March, Glen attended the American Institute of Aeronautics and Astronautics's (AIAA) Robert H. Goddard Memorial Symposium, as well as the annual spring conference of the Society for History in the Federal Government. He also gave a presentation in April at the Fourth Laboratory History Conference in Vancouver, Canada.

Colin Fries continued the ongoing task of scanning and adding *Current News* articles to the History Division database. He is currently working on news clippings from the period 1969–1972. Colin arranged and described the chronological correspondence files for the approximate years 1993–2000 of the following individuals: John Dailey (Associate Deputy Administrator); Michael Mott (Chief Technologist); and France Cordova (Chief Scientist). In January, he attended the Modern Archives Institute for a two-week training course offered by National Archives. Additionally, he updated through 2009 the "Forecast of Upcoming Anniversaries," which are located at <http://history.nasa.gov/annivforecast.htm>. He also collected and scanned Headquarters organizational charts for inclusion on the History Division Web site.

Steve Garber and his coauthor Glen Asner completed the research phase of their study on the Decadal Planning Team and the Vision for Space Exploration. Steve is editing the transcripts of the oral histories from the project and is ready to wrap up the writing for the book. Steve is grateful to Gabriel Okolski and Julia Sawyer for their hard work over the past few months on the NASA History Division Web site, the GRIN database, and DPT oral histories. Their input greatly contributed to the productivity of the History Division this quarter.

John Hargenrader scanned and added documents to the electronic database from the *Current News* series. He is working on articles for the period 1982–1983, which include a few miscellaneous Jet Propulsion Laboratory (JPL) *Current News* issues. He also reorganized and added to the archives a collection of exobiology materials assembled by Michael A. Meyer. Currently, John is reorganizing an addition to the Hubble Space Telescope files and is continuing to reformat and preserve deteriorating news clippings in the human spaceflight files.

Jane Odom spent a significant amount of time recently dealing with upgrades to the NASA History Division database. The new system became operational in early April. Jane continues to acquire and appraise new material for the Historical Reference Collection. The latest additions to the collection deal with hypersonic flight, spin-offs, the Strategic Defense Initiative, and the high frontier. Jane appraised several small collections of astronomy, life sciences, SETI, and planetary science material. She also assisted with the retirement of three collections of permanent records to the National Archives and Records Administration (NARA), one relating to life sciences, another documenting the official activities of a former Deputy Administrator, and the final collection relating to the activities of the Aerospace Safety Advisory Panel. Finally, she and Colin Fries supervised an archival practicum student who was here in February and March. This individual successfully completed the preliminary processing of a small collection of Space Station Freedom files.

Gabriel Okolski has completed his second semester as an intern in the History Division. During the semester, Gabriel helped move publications about the Galileo mission to Jupiter and NASA's Plum Brook nuclear test reactor through the editing and design process. Gabriel collaborated with fellow intern Julia Sawyer to design and develop a Web site commemorating the 25th anniversary of the first Space Shuttle mission.

Julia Sawyer served as an intern in the History Division from January through May. In addition to helping to create an online database of oral histories and various other tasks, she helped edit the oral history interviews that Glen Asner and Steve Garber conducted for their study examining the origins of the Vision for Space Exploration. Julia also worked with Gabriel Okolski to develop the content and design of a Web site celebrating the 25th anniversary of STS-1.

Ames Research Center

NASA Ames Assistant Archivist April Gage has developed a template and toolbox to streamline the process of encoding archival finding aids for digital access. The template uses Extensible Markup Language (XML) and is modeled on the Encoded Archival Description (EAD) standard, created in part by the Library of Congress and the Society of American Archivists. The templates are also compliant with best practice guidelines of the Online Archive of California (OAC), a digital repository that is part of the University of California's California Digital Library project. They also reflect the processing policies of the NASA Ames History Office.

The template and toolbox were designed both as a general tutorial on EAD for those unfamiliar with it and as a formatting guide for those specifically marking up finding aids in EAD for the NASA Ames History Office. Both files include instructions for encoding detailed finding aids, glossaries of terminology, pointers to reference materials on the Internet, and building blocks and structures for five variations of two methods of describing hierarchical groupings of collection materials. The template is annotated and includes such features as mapping to MARC 21 fields. Ames is using the XML template with the application OxygenXML, but the template can be used with almost any XML editor. The toolbox is also available as a PDF file. Please contact April at agage@mail.arc.nasa.gov or (650) 604-1032 if you would like to get a copy of the template and toolbox to try out.

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News from Headquarters and the Centers (continued)

Jack Boyd took on a third job, as Senior Advisor to the Center Director. In February 2006, Jack reopened his office in N200, the Ames headquarters building. Rebecca Brondos became his support staff. While the Center transitions to a new Director, Jack is advising Center leadership on institutional strategy, research planning and evaluation, and human capital issues. He also continues his active speaking schedule and represents Ames senior management to research partners and other facets of NASA. It is a unique opportunity to bring a historical perspective to plans for the Center's future. Jack retains his jobs and offices as Center Omsbud and Senior Advisor for History.

Michael Adamson, an historian working under contract with the NASA Ames History Office, published an introductory biography of William Ballhaus, a founder of computational fluid dynamics, in *IEEE Annals of the History of Computing* (January–March 2006, pp. 99–103). Glenn Bugos coauthored with Walter Vincenti and Jack Boyd a scientific biography of Harvey Allen, a pioneer in hypersonic aerodynamics, which was accepted for publication in *Annual Reviews in Fluid Mechanics*. Victor Peterson completed the National Advisory Committee for Aeronautics (NACA) Reunion XI album, and PDF files were posted as a courtesy on the History Office Web site. Leilani Marshall organized a session on “Documenting California’s Aerospace History” for the annual meeting of the Society of California Archivists held in San Francisco on 29 April.

Glenn Bugos was elected to the Editorial Committee of the Society for the History of Technology. Lynne Vieth, an archives student at San Jose State University, joined the office as an intern for the spring semester. Her project is to process and describe the papers of space and life scientist Robert P. Hogan.

Dryden Flight Research Center

Even while serving as chief of Code T (outreach, public affairs, and commercialization), Mike Gorn has been instrumental this year in a number of things related to history, not least of which was securing a new facility for the history and exhibits offices. The facility contains space for the archives and visitors who wish to conduct research onsite. It will hold all of our existing Lektrifiers, artifacts, and uncatalogued documents, as well as new accessions, video and audio collections (historic), a film viewer, the exhibits department, and a sorting area for new additions to the collection.

Mike’s article, “Who was Hugh Dryden and Why Should We care?” appeared in *Realizing the Dream of Flight*, edited by Virginia P. Dawson and Mark D. Bowles. Mike is editing the second edition of Lane Wallace’s of *Flights of Discovery: The History of the Dryden Flight Research Center*, which is due out 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 2006, at which time he will succeed Dill Hunley as Dryden Ombudsman. On his own initiative, Mike will continue to publish books and articles related to aeronautics and spaceflight.

Christian Gelzer has finally sent *Unconventional, Contrary, and Ugly: the Lunar Landing Research Vehicle* to press. It is the first thorough study of the free-flying simulator used to train the Apollo astronauts for landing on the moon. Christian is also arranging a sympo-

sium on the Lunar Landing Research Vehicle (LLRV) to coincide with both the book's release and the Center's 60th anniversary. The authors of the book and the two remaining pilots who flew the LLRV will participate in the symposium.

Christian presented a paper on the LLRV at the San Diego Aerospace Museum at the end of April. He continues to work on the truck-fairing monograph when time permits. He is also currently revamping the visitor center in connection with the 60th anniversary of the Dryden Flight Research Center.

Curtis Peebles continues work on a history of the X-43. He has written the first part of a two-part article on the X-43 program for the journal *Quest* and is nearing completion of the first draft of Part 2 ("The Road to Mach 10: A History of the X-43A Hypersonic Flight Test Program at NASA Dryden"). He has been conducting oral history interviews related to the X-43 project as well, which will enter the growing collection of historical interviews. He has also written "Then and Now: Flight Research in the Second Half of the 20th Century," for *SAFE* magazine. The article examines the way in which safety procedures for research aircraft changed over the past 60 years. Curtis is deep into a paper on a "lessons learned" for the American Institute of Aeronautics and Astronautics (AIAA) regarding the fin actuation system on the X-43, the system that led to the failure of the first flight. He has also been making final editing changes and additions to *The Spoken Word: Recollections of Dryden's History, Beyond the Sky*, which we hope to see go to press before the year is out.

Peter Merlin finished a white paper and is assembling a bibliography of technical papers for NASA Headquarters on the transfer of aviation-related technology from NASA to the commercial aircraft community. He has accessioned the collections of Bob Baron and Roy Bryant, two former Dryden engineers, which consist of nearly 70 linear feet of new archival material. Peter continues to work on the pictorial history of NACA/NASA at the lakebed here in the high desert.

Glenn Research Center

The snowbirds at Glenn Research Center (GRC) have been keeping warm by staying busy. Rebecca Wright's visit to conduct the video oral history with retired GRC director Dr. Julian Earls was a bright spot in our winter season. Archivist Nora Blackman (RSIS) worked with the Women's Advisory Group and the Visitor's Center to create an exhibit and program honoring the "Mercury 13." Two of the original Mercury 13, Gene Nora Jessen and Myrtle Cagle, spoke at the event. Anne Power gave a brief presentation on GRC's contributions to the Mercury program as part of the event. Nora also worked with the Earth Day Committee to create a traveling display on the history of renewable energy research at Glenn. The display made a number of appearances at Earth Day celebrations in and around the Center. Archivist Bob Arrighi (RSIS) is continuing his work on the documentation of the Altitude Wind Tunnel and the Powers Systems Labs 1 & 2, historic facilities that are slated for deconstruction in the near future. Bob is processing boxes of records, scanning negatives, and interviewing retirees. This collection of material will eventually be used in the creation of several documentation products. Bob also completed the nomination package for the National Trust/Advisory Council on Historic Preservation (ACHP) Preservation Award for GRC's preservation work done during the demolition of the Rocket Engine Test

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News from Headquarters and the Centers (continued)

Facility. Anne Power is temporarily serving as the acting history officer while Kevin Coleman does a 90-day detail in our division office. In February, Anne presented her talk on how NASA Glenn came to Cleveland as a part of the Library Lunch and Learn Series.

As current projects are finished, there is a steady stream of new ones to take their place. We will be assisting with the Air Race Historians Convention, coming to Cleveland 4–5 May. *First Man* author Jim Hansen has planned a visit for June to coincide with the second annual space memorabilia show at the Center.

Goddard Space Flight Center

Jane Riddle participated via remote conferencing in the UNILIB meeting, which was held 26–27 April 2006 at Kennedy Space Center (KSC). The UNILIB Group was established in 2004 at the NASA History Program Review for NASA Librarians to address common concerns across the Centers. Jane also prepared informal historical bullets for the Goddard Library Systems Team regarding the significance of naming our library after Dr. Homer Edward Newell.

Rebecca Wright from Johnson Space Center (JSC) guided Goddard Librarians and Landsat Legacy Team members through the oral history process by teleconference. She furnished samples of release agreements and promotional materials, as well as resources for oral history transcriptions. Patrick Healey continues to video record interviews of Landsat project participants with the support of the Landsat Legacy Team.

Jet Propulsion Laboratory

Eric M. Conway gave the first presentation of his Jet Propulsion Laboratory (JPL) oceans program history to the Science and Technology Studies program at the University of California, San Diego, in early February. This paper focuses on the challenge that large data sets from Earth remote sensing satellites posed to the traditional oceanographic community in the late 1970s. He has received the results of an internal review and will be making changes over the next couple of months prior to offering it to a journal.

Eric has interviewed a number of JPL people involved with the Mars Observer and Mars Global Surveyor missions during the past quarter. He anticipates completing interviews regarding Mars Global Surveyor (MGS) and Mars Pathfinder by mid-summer. He also participated in a number of video interviews with Viking project survivors for the 30th anniversary Web site.

Eric's atmospheric science history is "on hold" while he waits for oral histories to come back from the transcription service. Eric has made many revisions and has added new material. He is awaiting the text of the interviews to finalize his manuscript and anticipates completion during the summer.

Johnson Space Center

Members from the Johnson Space Center History Office were among the presenters at the recent Texas State Historical Association's 110th Annual Meeting held in Austin, Texas.

The session, sponsored by the Texas Oral History Association, was titled, "A Program Devoted Entirely to Texas Women." Participating as one of three presenters was JSC Historian Jennifer Ross-Nazzal, who shared information about the "Pioneering Women of Today-Space Travelers." Dr. Ross-Nazzal provided information and insights about the first group of U.S. female astronauts chosen in 1978 and the boundaries they crossed while exploring space: the new frontier. Sandra Johnson assisted in the presentation by facilitating a PowerPoint presentation of photos and data she compiled to complement her colleague's narrative. Rebecca Wright served as the panel's moderator.

The team is preparing for two upcoming presentations, both scheduled in September. Dr. Ross-Nazzal will be participating in the Societal Impact of Spaceflight Conference, to be held 19–21 September 2006 in Washington, DC, sponsored by the NASA History Division and the National Air and Space Museum Department of Space History. Her paper will be "From Farm to Fork: How Space Food Changed Food Safety Standards." Two days later, she and her two colleagues will be traveling to Nacogdoches, Texas, to be part of the panel, "Two Texas Communities Forever Changed by NASA." Joining them will be the current JSC/University Space Research Association (USRA) history research intern Kevin Brady, who will present "Longhorns to Spacecraft: How NASA Changed Houston." The team will give a presentation on "Disaster to Recovery: How East Texas Assisted NASA's Return to Flight."

The team continues to conduct oral history interviews related to the history of the NASA Centers. In February, Rebecca Wright traveled to Cleveland, Ohio, to conduct an in-depth interview with Dr. Julian Earls, former Director of the Glenn Research Center. The session covered almost 40 years of Dr. Earls's service with NASA. Working closely with Rebecca to make the two-day interview a success were GRC's Kevin Coleman, Anne Power, Nora Blackman, and the Center's video production crew members.

Marshall Space Flight Center

Roena Love has joined the history program at the Marshall Center. Roena began her new assignment this quarter after transferring from the National Space Science and Technology Center in Huntsville, Alabama. Her skills in communications and organization were a vital asset in preparing for the Annual NASA History Program Review/Training conference that Marshall hosted in April.

Several historians and archivists from the Huntsville area made presentations as part of the conference. Mike Baker, who works as an historian for the Army in Huntsville; Ann Coleman, who manages the Saturn Historian Collection at the University of Alabama in Huntsville; and Irene Wilhite, the archivist at the United States Space and Rocket Center made presentations regarding their particular collections. The agenda also included Marshall's Ralph Allen, who talked about historic preservation at the Center. Conference attendees heard a report by Ken Cooper from Marshall about his six-month rotational assignment to NASA Headquarters to lay the groundwork for a "living history" of the Exploration Systems Mission Directorate. Marshall's Dr. Stephen B. Johnson also spoke about his work on a "Space History Encyclopedia" and "Using History for Exploration."

Dr. Andrew Dunar from the University of Alabama in Huntsville (UAH) gave a presentation on the influence of the 1960s civil rights movement on NASA and its field centers in

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News from Headquarters and the Centers (continued)

the South. Dr. Dunar is coauthor of *Power to Explore*, a history of the Marshall Space Flight Center. Marshall retiree Konrad Dannenberg was a luncheon speaker for the conference and related his role as a member of Dr. Wernher von Braun's rocket team in Germany and the United States. Marshall historian Mike Wright presented a paper on Wernher von Braun.

Another Alabamian, Dr. James Hansen also spoke at the conference. Dr. Hansen is a Professor of History at Auburn University in Auburn, Alabama, who specializes in the history of science and technology. Dr. Hansen is the author of Neil Armstrong's authorized biography, *First Man: The Life of Neil A. Armstrong*. The biography traces Armstrong's life from boyhood to the current day. It deals with his time as a Korean War fighter pilot, his experiences in the American space program, and his historic place as the first astronaut to set foot on the Moon. Dr. Hansen's other published books include *Spaceflight Revolution: NASA Langley Research Center from Sputnik to Apollo* (NASA History Series, 1995), which was the only book ever nominated by NASA for the Pulitzer Prize in history.

Stennis Space Center

On the morning of 23 April 1966, Stennis Space Center (SSC), then called the Mississippi Test Facility, conducted its first static test-firing. The test was a cluster of five J-2 engines that powered the second stage of the Saturn V moon rocket. To commemorate the 40th anniversary of this milestone, Stennis Space Center invited the public to witness an engine test-firing of a Space Shuttle main engine on Friday, 21 April 2006. The Stennis Space Center History Office provided historical photos and information from the 1966 test-firing in an effort to build awareness among employees and the public on the history of the Center.

In conjunction with this celebration, Stennis hosted a program on development and testing for the Apollo propulsion program. On Tuesday, 25 April, a panel comprised of Apollo propulsion project managers presented a series of technical seminars on their development and test experiences on rocket engines for the Saturn booster vehicle, the Command and Service Module, and the Lunar Module. The seminars were held at the NASA SSC StenniSphere auditorium during morning and afternoon sessions, and live-cast on NASA SSC TV for those who could not be accommodated in the auditorium. A DVD of the event is available at the SSC History Office and may be obtained upon request. The History Office has also retained presentation materials from the speakers.

In conjunction with the 25th anniversary of the first Shuttle mission, the Stennis History Office conducted an oral history with SSC employee Terry Addlesperger, the test conductor for one of the Space Shuttle main engines on STS-1.

OTHER HISTORY NEWS

National Air and Space Museum (NASM): Division of Space History

Exhibitions:

In the Space Hangar at NASM's Udvar-Hazy Center near Dulles IAP, Space History Division personnel installed the mobile launching platform for the Regulus missile during the first part of 2006. This was the result of several months of restoration work, with one staff member and two volunteers working for a full month to sand, paint, conserve, and restore. More and more, artifacts that go to the Space Hangar will involve treatment like this, and of greater magnitude. The image below shows the final artifact on exhibition.



Mobile launching platform and Regulus missile at the Space Hangar at NASM's Udvar-Hazy Center.

In February 2006, NASM also acquired and placed on display a Viking 5C rocket engine, used to power the Ariane launch vehicle, a major vehicle built by a European consortium, into orbit. The donated engine, given by the SAFRAN Group of France, is now on display in the McDonnell Space Hangar at the Udvar-Hazy Center.

The NASM Division of Space History is working on a fall 2007 exhibit, with an emphasis on art, which marks the 50th anniversary of humanity's first foray into space. The gallery asks visitors to consider "How Far We've Gone," both as a reflection of how much has been accomplished in 50 years of spaceflight and as a literal measure of how far into the universe humanity has extended its reach and knowledge since 1957. Punctuated with artifacts from NASM's collection, works by major American artists such as Norman Rockwell, Robert McCall, and Andy Warhol will illustrate "How Far We've Gone" in terms of distance (through robotic planetary exploration); places (by human landings on the Moon); and cooperation (in contrast to earlier competition between nations).

Events:

After a holiday season hiatus, the Wednesday Curators' Choice presentations resumed at the Mall on 14 February 2006. David DeVorkin of the Department of Space History (DSH) gave the first of these at noon. His topic was "The First Human Astronomical Observatory Set Up on Another Celestial Body: George Carruthers' Telescope" This is a weekly activity on the museum floor and all are invited to attend.

The NASM Division of Space History is also working with the NASA History Division to sponsor a conference from 19 to 21 September 2006, in Washington, DC, on

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Other History News (continued)

the “Societal Impact of Space Exploration.” The purpose of this conference is to undertake a broad overview of the effect of space exploration on the social fabric.

Collections and Preservation:

The Division of Space History is completing work on the Saturn V located at the Johnson Space Center (JSC), Houston, Texas. The JSC effort has an accepted completion date of May 2006.

Research and Publications:

In the spring of 2006, the Division of Space History is completing a collaborative project entitled, *After Sputnik: The First Fifty Years of the Space Age*, a broad account of the meaning and significance of 50 years of the space age. It has a simple (and not deeply original) thesis: Since Sputnik, spaceflight—as idea, practice, and in its effects—has moved from speculative and experimental to an enterprise that is integral to and pervasive in contemporary American life. It contains numerous essays on artifacts in the NASM collection linked by interpretive essays and stunning imagery. Edited by Martin Collins, and with contributions by all curators, the book will be published by Smithsonian Books/HarperCollins in 2007, at the time of the 50th anniversary of the Space Age.

Individually, several curators have undertaken the following projects:

Paul E. Ceruzzi has published, *Storia dell'informatica: Dai primi computer digitali all'era di Internet*. Milan: Apogeo s.r.l., 2006. Italian translation of *A History of Modern Computing* (MIT Press).

David E. DeVorkin presented “Stardrek: 5 Women who Changed the Universe,” to the Boston University astronomy colloquium, Boston, Massachusetts, 2 March 2006, and reviewed “Strange Angel: The Otherworldly Life of Rocket Scientist John Whiteside Parsons,” in *Physics Today* 59 (January 2006): 57.

Roger D. Launius published a book review of *Shades of Grey: National Security and the Evolution of Space Reconnaissance*, by L. Parker Temple III (Reston, VA: AIAA, 2005), in *Quest: The History of Spaceflight Quarterly* 13, No. 2 (2006): 64. He also gave the keynote lecture at the 31st Annual AIAA Dayton-Cincinnati Aerospace Sciences Symposium, 7 March 2006. His topic was “Robots and Humans in Spaceflight: Technology, Evolution, and Interplanetary Travel,” the subject of a book he has underway. He delivered the keynote presentation at the National Space Grant Consortium's Distinguished Service Award Dinner, on Wednesday evening, 15 March 2006. John Glenn will receive the award. Dr. Launius's topic was “The Many Careers of John Glenn.” Finally, Dr. Launius has been invited to present the opening keynote lecture at the U.S. Air Force Academy's 21st Military History Symposium, scheduled for 1–3 November 2006. This year's theme will be “Harnessing the Heavens: National Defense through Space.” This keynote, the Harmon Memorial Lecture, is a prestigious series; the previous lecturers include such stellar historians as Wesley Frank Craven, Frank E. Vandiver, General Sir John Winthrop Hackett, Forrest C. Pogue, George C. Herring, and William H. McNeill.

Valerie Neal gave a presentation on “Shuttle, Space Station, and Beyond” at the Strategic Air & Space Museum, Omaha, Nebraska, 11 March 2006. She has also been appointed to the Board of Visitors of Texas Christian University (TCU) in Fort Worth, Texas. She will serve a four-year term as an advisor to the Dean of the College of Humanities and Social Sciences.

Michael Neufeld published an article, “‘Space Superiority’: Wernher von Braun’s Campaign for a Nuclear-armed Space Station, 1946–1956,” *Space Policy* 22 (2006), 52–62. It provides an in-depth look at von Braun’s advocacy for nuclear arms in orbit in connection with his Space Station ideas. Dr. Neufeld also published a review of Niklas Reinke, *Geschichte der deutschen Raumfahrtspolitik: Konzepte, Einflußfaktoren und Interdependenzen 1923–2002*, online by *H-German@h-net.msu.edu* (January 2006).

Frank Winter published *Chuck Yeager and the Bell X-1: Breaking the Sound Barrier* (New York: Abrams, 2006), with Dominick A. Pisano and F. Robert van der Linden.

CALLS FOR PAPERS AND ANNOUNCEMENTS

Business History Conference (BHC)

The 2007 annual meeting of the BHC will take place Friday and Saturday, 1–2 June in Cleveland, Ohio, at the Weatherhead School of Management at 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. In keeping with longstanding BHC policy, the committee will also entertain submissions not directly related to the conference theme. The deadline for receipt of all proposals is 15 October 2006. For more information, see <http://www.h-net.org/~business/bhcweb/annmeet/call07.html>.

National Council for Public History (NCPH)

The NCPH invites proposals for its 2007 Annual Meeting, which will be held 12–15 April 2007 in Santa Fe, New Mexico. The theme of the conference will be “Many Histories, Many Places—Common Ground?” The program committee invites the submission of presentations in the form of traditional panels, roundtables, poster sessions, and workshops. We further encourage proposals on pedagogy, online sessions, debates, visual and musical performances, films, and the many formats and practices used in diverse community and institutional settings. For presenters, please consider the importance of engaging the participating audience in a manner that is innovative and provides interactive models for use within home organizations and institutions. For more information, including

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Calls for Papers and Announcements (continued)

requirements for submitting panel proposals, see <http://www.ncph.org/2007annualmtg.html>. Proposals must be postmarked or received electronically by 1 September 2006.

Encyclopedia of the History of Invention and Technology

Dr. David J. Staley is seeking contributors for *The Encyclopedia of the History of Invention and Technology*. The encyclopedia will include articles on such topics as household technologies, medical devices, musical instruments, communications technologies, transportation, military technologies, and electronic inventions. The encyclopedia, to be published by Facts On File, will be a history reference focusing on the cultural, social, and economic impact of each invention. Articles will not explain how the technology actually works (except, perhaps, very briefly and in a nontechnical manner to demonstrate the originality or ingenuity behind the technology); rather, articles will examine each invention's origins, development, and use; its influence in shaping society and civilization; and how it transformed history. The encyclopedia is intended for general audiences. Each article will be between 1,500 and 3,000 words in length. If you would like to contribute to this encyclopedia, please send to the address below a statement of interest, a brief c.v./resume or biography describing your qualifications, and a short writing sample. Each entry will be signed with the author's name. Contributors will receive a small honorarium for each article.

David J. Staley, Ph.D.
 Editor, *The Encyclopedia of the History of Invention and Technology*
 Director, The Harvey Goldberg Program for Excellence in Teaching
 Department of History
 The Ohio State University
 207 Dulles Hall
 230 W. 17th Ave.
 Columbus, Ohio 43210
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Space Policy Essay Competition Announcement
The Maxim Tarasenko Award

Maxim Tarasenko, a leading Russian space history scholar and a member of the editorial board of the journal *Space Policy*, died in 1999. In order to commemorate his pioneering work in space policy, the journal's publisher, Elsevier, holds an annual competition open to all law school students and graduate students of space policy, to find the best essay in this field. We would like to announce the 2006 competition, for which the closing date is 1 September 2006. The winning entry will be published in the journal's first issue of the following year. The essay may be written on any topic of current debate in space law or policy, should be typewritten in English, and should be between 10 and 20 pages (or 2,500 and 5,000 words) in length. Essays should be submitted to Frances Brown, Editor, *Space Policy*. The judges will be the Editor of *Space Policy* and two others appointed by Elsevier. The judges's decision will be final; the editors cannot enter into any correspondence about

the competition. In addition to publication in the journal, the winner will receive £100, a certificate, and a year's subscription to *Space Policy*. Where possible, essays should be submitted electronically (in Word) to *fbrown.seabank@virgin.net*. Students without access to the Internet may mail their essays (preferably including a disk version) to:

Seabank
Turnberry Road, Maidens
Ayrshire KA26 9NN, Scotland

California Institute of Technology (Caltech)

The Humanities faculty at the Caltech invites applications for a tenure-track position in the history of chemistry or astronomy. They would prefer an appointment at the assistant professor level, although exceptionally well-qualified applicants will be considered at the associate or full professor level. The term of the initial appointment is normally four years and is contingent upon completion of the Ph.D. They are especially interested in the period from the 17th through the 19th centuries.

They are seeking highly qualified candidates who are committed to a career in research and teaching. Candidates for the position should send a c.v.; a letter describing their current research; three letters of recommendation; and a sample of their written work, which may be an article, a working paper, or a chapter from a book or dissertation. Caltech is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.

Contact:
Sanja Ilic, Assistant to the Chair
History of Chemistry or Astronomy Search
HSS 101-40
Caltech
Pasadena, CA 91125

Application review will begin 1 October 2006 and will continue until the position is filled.

PUBLICATIONS

NASA Publications

Unconventional, Contrary, and Ugly: The Story of the Lunar Landing Research Vehicle, 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).

Forthcoming NASA Publications

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)

Nose Up: High Angle-of-Attack and Thrust Vectoring Research at NASA Dryden, 1979–2001, by Lane Wallace. This monograph examines three different programs that explored high-angle of attack flight: 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.

Rockets and Men: Volume II 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. This volume is due for publication in 2006.

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.

Science in Flux: NASA's Nuclear Program at Plum Brook Station, 1955–2000, 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 for over 15 years to the facility. In the attempt to develop nuclear rockets and the challenge to clean up the radioactive ruins from the site that housed the search lay 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. This volume is due for publication in spring 2006.

New Non-NASA Publications

Testing the Limits: Aviation Medicine and the Origins of Manned Space Flight, by Maura Phillips Mackowski (College Station: Texas A&M University Press, 2005).

The Last of the Great Observatories: Spitzer and the Era of Faster, Better, Cheaper at NASA, by George H. Rieke (Tucson: University of Arizona Press, 2006).

Rocketeers and Gentlemen Engineers: A History of the American Institute of Aeronautics and Astronautics-and What Came Before, by Tom D. Crouch (Reston, Virginia: AIAA, 2006).

Stanley Kubrik's 2001: A Space Odyssey, New Essays, edited by Robert Kolker (New York: Oxford University Press, 2006).

New NASA Web Sites

Journey in Aeronautical Research: A Career at NASA Langley Research Center, by W. Hewitt Phillips (Monograph in Aerospace History, No. 12, 1998) is available from

<http://history.nasa.gov/monograph12/monograph12.htm> on the Web. This monograph focuses on his career in aeronautics.

Journey Into Space Research: Continuation of a Career at NASA Langley Research Center, W. Hewitt Phillips (NASA SP-2005-4540). This monograph is available online at http://history.nasa.gov/SP-4540/sp4540_1.pdf. (If your browser does not open a table of contents with a link to the second half of this, go to http://history.nasa.gov/SP-4540/sp4540_2.pdf.) This monograph is the “space sequel” to Hewitt Phillips’s earlier autobiographical monograph (#12) that focuses on aeronautics.

On the Moon with Apollo 16: A Guide to the Descartes Region (NASA EP-95, 1972) is also available online at <http://history.nasa.gov/EP-95/ep95.htm>. Special thanks to volunteer Chris Gamble, who formatted this publication for the Web.

An electronic version of the Skylab EREP Investigations Summary publication is also available from <http://history.nasa.gov/SP-399/sp399.htm> online. This publication covers the Earth Resources Experiment Package. Special thanks to volunteer Chris Gamble, who previously formatted both of these publications for the Web.

The History Division recently posted the amended version of the “Space Act,” which includes a legislative history indicating when and where specific changes were made. It is online at <http://history.nasa.gov/spaceact-legishistory.pdf>. We also have links to the original (unamended) Space Act, the amended Act without the legislative history, and other key space policy documents at <http://history.nasa.gov/spdocs.html> on the Web. Special thanks to Anna Lankford for her help with this.

CONTRACTS

The History Division is pleased to announce that it has awarded independent historian Dr. Andrew Butrica a contract to write a monograph documenting “lessons learned” from NASA return-to-flight activities in the aftermath of the February 2003 *Columbia* accident. Dr. Butrica will develop an historical account of the activities that accompanied the implementation of the Columbia Accident Investigation Board recommendations. The focus of the manuscript will be on the recommendations, decisions, justifications, and organizational and technical changes that preceded the resumption of Shuttle operations. The NASA History Division is administering this project jointly with the NASA Office of the Chief Engineer.

AEROSPACE HISTORY IN THE NEWS

STS-1 Anniversary

On the morning of 12 April 1981, flight Commander John Young and pilot Robert Crippen lifted off from Kennedy Space Center on STS-1, the first Space Shuttle mission. The mission vehicle, the Space Shuttle *Columbia*, represented the culmination of 30 years of research, engineering, and testing of reusable space vehicles. Twenty-five years and more

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Aerospace History in the News (continued)

than 100 launches later, the Space Shuttle remains the centerpiece of the human spaceflight program at NASA.

To commemorate STS-1, NASA held a series of events on the 25th anniversary of the launch. On 12 April 2006, Administrator Michael Griffin joined Shuttle astronauts Crippen and Young at Johnson Space Center, Houston, Texas, for an event broadcast on NASA TV. The Administrator thanked the two men for their courage and lauded the accomplishments of the great many other individuals who supported the first Shuttle mission from Earth. Crippen and Young then took to the podium to talk about their unique experiences to an audience filled with people who helped make the first *Columbia* mission possible and to viewers of NASA TV.

The other Centers celebrated the 25th anniversary in a variety of ways. Marshall Space Flight Center showed a video to their employees about the Center's crucial role in developing the propulsion systems for *Columbia*. A media day hosted by Ames Research Center included an opportunity for the public to hear astronaut Steven Robinson speak about spaceflight. On 14 April, Wallops Flight Facility unveiled a Shuttle sculpture commemorating its role in providing range-safety support and tracking for STS-1. Glenn Research Center held an informative briefing with a NASA aerospace engineer on the requirements for launching a Shuttle into orbit. To celebrate both the 25th anniversary of STS-1 and the 40th anniversary of the first rocket engine static test-firing on the A-2 Test Stand, Stennis Space Center fired a Space Shuttle main engine on 21 April. The anniversary activities serve as a reminder of NASA's commitment to honoring the past, even as the Agency moves forward into a new era of space exploration.

Carl J. Seiberlich, Commander of the USS *Hornet*

Rear Admiral Carl J. Seiberlich (U.S. Navy, retired) passed away on 24 March 2004. Admiral Seiberlich was born 4 July 1921 in Jenkintown, Pennsylvania. He graduated from the U.S. Merchant Marine Academy in 1943 and went on to serve on two merchant vessels before being commissioned in the U.S. Navy. During World War II, Admiral Seiberlich served as navigator on the USS *Mayo* and was present for the surrender of Japan in 1945. After serving in the war, he received his aviator wings and, in 1952, President Truman presented him with the Harmon International Trophy for achievement in aeronautics. In May 1969, he became the Commanding Officer of the USS *Hornet*.

Soon after Admiral Seiberlich's promotion, the *Hornet* was selected to be the Prime Recovery Ship for NASA manned Moon missions. Admiral Seiberlich directed the safe recovery of the astronauts, the command module, and lunar samples on Apollo 11, the first manned mission to the Moon, in July 1969. He later did the same for Apollo 12. The *Hornet* was decommissioned in June 1970.

In the civilian realm, Admiral Seiberlich continued to serve in naval affairs. He was U.S. representative to the International Standards Organization committee until 2005. He is survived by his wife Trudy and his daughter Heidi.



A. Scott Crossfield

Aviator A. Scott Crossfield Dies in Airplane Crash

A. Scott Crossfield—aviator, test pilot, author, businessman, advisor, raconteur, husband, father, and legend—died Thursday, 20 April 2006, in a crash of his small plane in Georgia. Crossfield became world-famous in November 1953 for being the first person to reach and slightly exceed Mach 2 flying the Navy's D-558-II Skyrocket. Later, in the X-15, he also was the first to fly Mach 3.

In a life devoted to advancing aviation, he nobly exhibited what author Tom Wolfe later tagged as “the right stuff.” Always serious and devoted, but humble about his accomplishments, he was one of the early post-World War II engineer-pilots that came to the fore during the golden age of test flying at Edwards Air Force Base in the California Mojave Desert, and came to best represent their virtues. He began working for the National Advisory Committee for Aeronautics (NACA) in June 1950, later leaving to shepherd the X-15 project for North American Aviation. He flew many types of aircraft, including the Bell X-1, the Northrop X-4, and the Consolidated-Vultee delta-wing XF-92.

He is best remembered for adding his experienced mind and reflexes to the development and early flight testing of the pioneering North American Aviation X-15 hypersonic research aircraft as company test pilot.

His autobiography, cowritten with Clay Blair and published in 1960, *Always Another Dawn*, describes his life and work to that date. At the time it was published, it was considered by many readers to be a classic in the test-pilot memoirs genre.

His contributions to aviation and spaceflight were highlighted in the 1981 NBC television documentary “An American Adventure: The Rocket Pilots,” which chronicled the activities of Crossfield and other early rocket pilots who laid the groundwork for the Space Shuttle Program in the hypersonic region. Those efforts had been overlooked during the 1960s and 1970s by the more highly publicized space race that culminated in the Apollo lunar landings. Crossfield received numerous awards and accolades over his long and diverse career, but surely advancing aviation from beyond Mach 1 to orbital velocity was most deeply satisfying.

Eberhardt Rechtin Passes Away at Age 80

Eberhardt Rechtin, a former Jet Propulsion Laboratory (JPL) Assistant Administrator, died on Friday, 14 April 2006. Dr. Rechtin began his career in 1949 at the Jet Propulsion Laboratory, where he focused on the extending telecommunications capabilities in space. As the director of the Deep Space Network (DSN) from 1958 to 1967, he led the effort to establish a dedicated network of communications facilities across the world to support deep space missions.

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Aerospace History in the News (continued)

Dr. Rehtin continued to contribute to the development of U.S. space and defense capabilities after leaving JPL. He served as the Director of the Defense Advanced Research Projects Agency (DARPA) from 1967 to 1971, and as an Assistant Secretary of Defense for telecommunications from 1972 to 1973. After leaving government service, Rehtin worked as the Chief Engineer of the Hewlett-Packard Corporation and then as President and CEO of the Aerospace Corporation.

Born in Orange, New Jersey, on 26 January 1926, Dr. Rehtin attended the California Institute of Technology from 1943 to 1950, receiving a B.S. in electrical engineering 1946 and a Ph.D. cum laude in electrical engineering and physics in 1950. He spent the final years of his career, from 1987 to 1994, as a professor of engineering at the University of Southern California.

UPCOMING MEETINGS AND EVENTS

1–4 June 2006: The Policy History Conference of the Journal of Policy History will be in Charlottesville, Virginia, at the Charlottesville Omni Hotel. For more information about the conference, see <http://www.slu.edu/departments/jph/conf2006.htm>.

1–4 June 2006: The Department of Physics & Astronomy of the University of Calgary will host the 208th Meeting of the American Astronomical Society (AAS). The meeting will be held at the Hyatt Regency Hotel located in downtown Calgary, Alberta, Canada. For more information, see <http://www.ism.ucalgary.ca/meetings/casca06/english/index.html>.

6–9 June 2006: The Canadian Aviation Historical Society will hold its annual meeting in conjunction with the 12th Annual Air Force Historical Conference at the Victoria Inn Hotel and Convention Centre in Winnipeg, Manitoba, Canada. For more information about the meeting, see <http://www.caahs.com>.

8–10 June 2006: The annual meeting of the Business History Conference (BHC) will take place in Toronto, Ontario, Canada, at the Munk Centre for International Studies of the University of Toronto. For more information, see <http://www.h-net.org/~business/bhcweb/>.

6–9 July 2006: The third annual convention of the Aviation Engine Historical Society will be held at the Ramada Inn, Windsor Locks, Connecticut. For further details on the meeting, see <http://www.enginehistory.org/>.

30 July–6 August 2006: The Society of American Archivists will hold its annual meeting in Washington D.C. For further details, see <http://www.archivists.org>.

3–6 August 2006: The 9th International Mars Society Conference will be held at the L'Enfant Plaza Hotel in Washington, DC. For more information, see <http://www.marssociety.org>.

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/>.

19–21 September 2006: The American Institute of Aeronautics and Astronautics will hold its Space 2006 conference, “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>.

SOCIETAL IMPACT OF SPACEFLIGHT CONFERENCE

**NASA History Division
Office of External Relations
NASA Headquarters and the
Department of Space History
National Air and Space Museum (NASM)**

Date: 19–21 September 2006

Location: Smithsonian Institution, Hirshhorn Museum, Washington, DC

Purpose: The purpose of this conference is to undertake a broad overview of the societal impact of space exploration, especially as illuminated by historical research. The purpose is not an exercise in public affairs or a debate over public policy, but to examine with rigorous research what the impact has been, both nationally and internationally. This is an enormous topic, so we cannot be comprehensive, but we can be broadly representative of the major areas of impact.

Audience: Scholars and the general public in an auditorium venue that will hold approximately 250 people. Free and open to the public.

Proceedings: Selected papers (5,000–7,000 words, fully referenced) will be included in Proceedings, available to a wide audience.

Agenda

Tuesday, September 19

Welcome • 9:00–9:30 a.m.

Steven Dick, NASA Chief Historian

Roger Launius, NASM Chair, Space History

Opening Remarks

Shana Dale, NASA Deputy Administrator

Gen. Jack Dailey, NASM Director

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*Societal Impact of Spaceflight Conference (continued)***Keynote • 9:30–10:00 a.m.**

Howard McCurdy, American University - Has Spaceflight Had an Impact on Society? An Interpretative Framework

Session I • Turning Point Impacts • 10:00 a.m.–12:30 p.m.

Roger D. Launius, NASM - Overview: What is a Turning Point, and What Were They for the Space Age?

James T. Andrews, Iowa State University - In Search of a Red Cosmos: Space Exploration, Public Culture, and Soviet Society

Andrew Chaikin, Independent Scholar - Impact of the Apollo Program

Valerie Neal, NASM - Shuttle Tragedies as Catalysts for Revaluing Space Exploration

John Logsdon, George Washington University (GWU) - Space in the Post-Cold War Environment

James Hansen, Auburn University - Meaning of the Chinese Human Space Program

Lunch on own 12:30–1:30 p.m.

Session II • Commercial and Economic Impact • 1:30–4:30 p.m.

Phil Scranton, Rutgers University - Overview

Stephen Johnson, NASA/Marshall Space Flight Center - The Political Economy of Spaceflight

James Vedda, Aerospace Corporation - Role of Space Development in Globalization

John Krige, Georgia Tech - Space Technology Transfer in an International Context

Jennifer Ross-Nazzari, Johnson Space Center (JSC) Historian - “From Farm to Fork”: How Space Food Changed Food Safety Standards

H. Hertzfeld, GWU - Economic Impact of Earth Observing

R. Williamson - Satellites

Wednesday, September 20**Session III • Applications Satellites, the Environment and National Security
9:00 a.m.–12:00 p.m.**

Erik Conway, Jet Propulsion Laboratory (JPL) - Overview: Satellites and Security: Space in Service to Humanity

David Whalen, Independent Scholar - Societal Impacts of Applications Satellites

Henry Lambright, Syracuse University - NASA and the Environmental Movement: Where Science and Policy Meet

Rick Sturdevant, Air Force Space Command - The Military, Civil, and Commercial Impact of the NAVSTAR Global Positioning System

Roger Handberg, University of Central Florida - Intersection of Military/
Civilian Applications

Glenn Hastedt, James Madison University - Reconnaissance Satellites and
National Security

Session IV • Social Impact • 1:30–4:30 p.m.

Glen Asner, NASA History Office - Space History from the Bottom Up: Using Social
History to Interpret the Societal Impact of Spaceflight

Andrew Fraknoi, Foothill College & Astronomical Society of the Pacific - Space Science
Education in the U.S.: The Good, the Bad, and the Ugly

Kim McQuaid, Professor, Lake Erie College - Civil Rights at NASA in the Nixon Era

Kevin Brady, Texas Christian University, Ph.D. student - NASA Launches Texas Into
Orbit: The Political, Economic, and Social Impact of the Space Agency on the Lone Star
State, 1961–1969

Peter Westwick, Yale University - JPL and Southern California

Margaret Weitekamp, NASM - Space Memorabilia as Evidence of Space Program's
Impact on American Culture

Thursday, September 21

Session V • Cultural Impact • 9:00–10:30 a.m.

Jannelle Warren-Findley, Arizona State University - Overview

De Witt Douglas Kilgore, Indiana University - Implications of Extraterrestrial Life

Ron Miller, Independent Scholar - Spaceflight Impact on Literature and the Arts

Livio & Manning, Space Telescope Science Institute (STScI) - Impact of Hubble
on Culture

Alexander Geppert, Freie Universitat Berlin -Space and the European Imagination

Session VI • Ideology and Space Advocacy 10:30 a.m.–12:30 p.m.

Linda Billings, SETI Institute - Overview

Wendell Mendell, NASA/JSC - Space Activism as an Epiphanic Belief System

Taylor Dark, California State University, Los Angeles - Reclaiming the Future: The
Space Program and the Idea of Progress

Chris Gainor, University of Alberta - The U.S. Space Movement and Space
Program Opposition

Closing Keynote • 12:30–1:00 p.m.

M. G. Lord - Are We a Spacefaring Species? Acknowledging our Physical Fragility as a
First Step to Transcending It

NASA'S CULTURAL RESOURCE MANAGEMENT (CRM) PROGRAM

NASA's CRM Program includes architectural and archeological resources governed by the National Historic Preservation Act (NHPA) and Archeological Resource Protection Act (ARPA) and their implementing regulations. The NHPA calls for every agency to designate a Federal Preservation Officer (FPO). Ken Kumor is NASA's FPO. NASA has also designated an Historic Preservation Officer (HPO) at each Center and component facility. Please contact them if you have any questions about the regulations relating to NASA's real property assets that are historic (over 50 years old). You may also find information on NASA's CRM Web site that is currently under development (only available internally) at: <http://netsdata-tt.grc.nasa.gov/histpreserve/home/index.cfm>. This group is currently working on surveying NASA assets used by the Space Shuttle Program.

NASA Preservation Officers

Name	Representing	Mailing Address	Email Address
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