



FROM THE CHIEF HISTORIAN



I write this column having just returned from Moscow and excited more than ever about NASA history and the role it can play. The occasion for the trip was the publication in the NASA history series of the English translation of volume 1 of Boris Chertok's *Rockets and People*. Chertok participated for six decades in the Soviet and Russian aviation and space programs, including many years as the Deputy to the founding figure of the Soviet space program, Chief Designer Sergey Korolev. At a ceremony at NASA Headquarters on 14 March, series editor Asif Siddiqi spoke about the project, along with Bill Readdy, Associate Administrator for the Space Operations Mission Directorate (which funded the translation), and Jesco von Puttkamer, space station senior engineer, who was essential in initiating and sustaining the project.

One person not present on 14 March was Chertok, who had just turned 93 and was still alive and well in Moscow. So 30 March found us in Moscow at an even more memorable event with Chertok himself present. Among the 100 attendees were top management from Roskosmos (the Russian Federal Space Agency) and RSC Energia, many veteran cosmonauts (e.g., Alexandrov, Popovich, Savynikh, Baturin), and distinguished guests including Natalia Koroleva, Chair of Surgery at the Moscow Medical Academy and daughter of Sergey Korolev.

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PERSPECTIVES ON THE CRITICAL ISSUES CONFERENCE

By Glen Asner

The NASA History Division held a meeting entitled "Critical Issues in the History of Spaceflight" on 15–16 March 2005 at the National Air and Space Museum's (NASM) Steven F. Udvar-Hazy Center in Chantilly, Virginia. The meeting, cosponsored by NASM's Space History Department, brought together historians and historically minded political scientists and sociologists to assess the current state of space history and to identify issues in the field for further exploration. The Udvar-Hazy facility, with its unparalleled collection of aerospace artifacts, proved to be an ideal setting for contemplating the history of spaceflight.

The conference began with a warm welcome from NASM Director, General John R. Dailey. General Dailey emphasized the importance of historical scholarship for the educational mission of the museum and for contemporary aerospace policy. The first day included sessions on "Motivations for Spaceflight," "Human and Robotic Exploration," and "NASA and External Relations." Sessions on the second day of the conference focused on "Access to Space," "NASA Cultures," and "The State of the Art." In addition to the impor-

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From the Chief Historian (continued)

Among the speakers at the dedication ceremony was the U.S. Ambassador to Russia, Alexander Vershbow, who pointed to the publication of Chertok's book in the United States as "more evidence of the growing interest in Russia's history and enormous expertise in space exploration." After recalling the history of Soviet/Russian and U.S. cooperation in space, Ambassador Vershbow noted that "this longstanding cooperation is based on mutual respect and admiration for the capabilities brought to the table by the other side. In this way, we believe that we have forged a true partnership. This has been most recently demonstrated since the Space Shuttle *Columbia* accident. While the Shuttle fleet has been grounded for the last two years, Russia has been providing the International Space Station with crews and cargo, keeping the station human-tended and productive. We all look forward to the Shuttle's safe return to flight in May of this year." The Ambassador also noted that "the Vision for U.S. Space Exploration announced by President Bush over a year ago sets many challenging tasks for NASA. One of the objectives of this initiative is to promote international cooperation in the exploration of the Moon, Mars, and beyond."

Chertok himself gave a lively address, expressing his surprise and delight that the Americans were taking such a renewed interest in Soviet/Russian space history, and called this revelation a "second discovery of America."

The Chertok event and the attending remarks point to an important role for the NASA History Division—one that fits well into its parent organization, the Office of External Relations, which includes international relations. By helping to increase understanding of the past, history can foster good international relations in the present and the future. The three additional volumes of Chertok that will appear over the next three years will continue to foster good relations. A variety of other projects are possible, including potential translation of Koroleva's two-volume biography of her father.

My first visit to Moscow also provided an opportunity to visit the legendary Star City, home of the Gagarin Cosmonaut Training Center, where I sat in a Soyuz simulator, toured the neutral buoyancy facility, and viewed many historic facilities and artifacts. A visit to the Russian Mission Control allowed us to see where the *Mir* space station had been tracked, and where now the International Space Station is tracked jointly with Mission Control at Johnson Space Center. Russian Mission Control is located in a suburb of Moscow, formerly named Kaliningrad, now appropriately renamed Korolev. Nearby stands the buildings of the Rocket Space Corporation Energia with production facilities that also house an excellent museum, including Gagarin's charred capsule.

All in all, these were two days not to be forgotten.

Steve Dick

Perspectives on the Critical Issues Conference (continued)

tant ideas and questions that arose from individual presentations, all of the sessions generated discussion about methodology and the proper boundaries of scholarship in the field of space history.

Among the most memorable presentations was Howard McCurdy's "Analysis of the Robotic vs. Human Issue." The talk, which ventured into the speculative future realm of a postbiological universe in which humans may become more robot-like, riled some conference attendees who expected presenters to use documentary evidence to explain the past rather than science fiction to predict the future. McCurdy's lecture was one of a handful of talks that generated discussion of whether some presenters had abandoned traditional modes of argumentation and analysis in favor of speculation or political commentary.

Some historians argue that McCurdy's approach was cultural rather than historical, taking into account cultural evolution just as other presenters took a sociological or political approach. According to this perspective, there are more ways to elucidate critical issues in history than a strictly historical manner; McCurdy's approach indicated that in the future, the robotic vs. human issue might be a false dichotomy.

Of larger significance was whether historians should allow the arguments of historical actors to determine the boundaries of their scholarship. This tendency was most evident among presenters who took sides on debates of contemporary significance, such as the

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Participants in the "Critical Issues in the History of Spaceflight" conference in front of the Space Shuttle *Enterprise*. From left to right: James Hansen, John Krige, Asif Siddiqi, David DeVorkin, Howard McCurdy, W. D. Kay, Andrew Butrica, Margaret Weitekamp, Phillip Scranton, Steven Dick, Stephen Pyne, Alexander Brown, Slava Gerovitch, Stephen Johnson, and David Mindell. (Not pictured: Roger Launius, Peter Hays, John Logsdon, Diane Vaughan, and Todd LaPorte.)

Perspectives on the Critical Issues Conference (continued)

human vs. robotics debate and the expendable vs. reusable launch vehicle debate. Critics in the audience complained that such blurring of the line between analysis and commentary violated professional norms and, by extension, undermined the credibility of historians. Most of the presenters who ventured beyond historical norms, however, were not historians. The NASA Headquarters History Division invited scholars from diverse fields, interests, and backgrounds under the assumption that crossdisciplinary discussions held potential for generating new ideas and approaches to the history of spaceflight. We were not disappointed.

The conference also raised important questions about prioritization. Stephen Johnson and Asif Siddiqi, for example, presented lists of topics that beg for further research. The more interesting suggestions involved approaching space history from different subdisciplines, such as national security studies, diplomatic history, social history, the history of technology, and women's history. Due to time restrictions, participants did not have an opportunity to sort out which topics deserve immediate attention and which ones might be profitably ignored.

Focused case studies provided a sense of the important questions and analytical approaches that deserve further consideration. John Krige's explanation of how the United States used international cooperation to prevent allies from obtaining particular space capabilities, for example, shed light on how space has served as a tool for achieving broader national objectives. Phil Scranton showed the importance of local knowledge, testing, and cut-and-try methods in high-technology development efforts. Slava Gerovitch and David Mindell carved clear paths for moving the discussion of humans and robotics away from the simple dichotomies of contemporary politics and toward an understanding of the social context of human-machine interactions. These and other papers provided ideas for prioritizing the seemingly limitless list of space history topics. As Peter Hays made clear in the course of his question-and-answer session, nonetheless, historians are not alone in determining the boundaries of scholarship. National security requirements and the priorities of document declassification officers place limits on the nature and depth of historical studies, particularly in the realm of NASA-Department of Defense relations.

Tuesday night's dinner speaker, James Hansen of Auburn University, provided a nice change from the activities of the day. Hansen discussed the contradictions that emerged during his research for an upcoming biography on the famed Apollo astronaut Neil Armstrong. Thick layers of myth, Hansen discovered, have clouded the public image of Armstrong since early in the astronaut's career. Armstrong's devoutly Christian mother, as well as his neighbors and friends, contributed to the construction of those myths through their own writings and in the course of interviews with the media and previous Armstrong biographers. Hansen captivated the audience with his explanation of how others imposed their own interpretations on Armstrong's childhood and how Armstrong did little to refute the falsehoods that followed him throughout his life.

The critical issues meeting was the first in a series of four conferences that the NASA History Division will host over the next several years. We have already begun to plan for our next conference entitled "The Societal Implications of Space," which will be held in the fall of 2006. Look to future editions of *News and Notes* for further information on this conference and for our announcement on the publication of the critical issues conference proceedings.

ACADEMICIAN BORIS YE. CHERTOK BIOGRAPHY

Boris Ye. Chertok was born in 1912 in Poland, and his family moved to Moscow when he was three years old. In 1930, he began work as an electrician in the Fili suburb of Moscow. In 1934, he joined the design bureau of Viktor Bolkhovitinov, a noted designer of bombers. Under Bolkhovitinov, Chertok contributed to the development of the DB-A long-range bomber and the first Soviet rocket plane launched under its own power, the "BI." In 1945–1946, Chertok played a key role in organizing and reconstructing plans to reproduce the German V-2 using Soviet materials.



Boris Chertok

In 1946, by a joint order of two ministries, Chertok was transferred from the aviation industry to the newly created head institute for rocket technology, the NII-88, where he was the Deputy Chief Engineer and Chief of the Department of Control Systems. Chertok became one of Korolev's closest aides in developing control systems for ballistic missiles and spacecraft, eventually becoming Deputy Chief Designer of the famous OKB-1, the design organization that spun off from NII-88 in 1956. Chertok participated in every major project at OKB-1 (now the Rocket Space Corporation Energia) until the dissolution of the Soviet Union in 1991. In 1992 (at the age of 80), he moved from the position of Deputy General Designer of RSC Energia to become the Chief Scientific Consultant.

At the present time, academician Chertok lives in Moscow and continues active work as the Chief Scientific Consultant for RKK Energia, as the dean of the faculty for "Control Motion" at the Moscow Physical-Technical Institute, and also as professor of MGTU and head of the program on the history of cosmonautics in the Russian Academy of Sciences. His four-volume memoirs *Rakety i Lyudi (Rockets and People)* were published in Moscow between 1994 and 1999.

NEWS FROM HEADQUARTERS AND THE CENTERS

Headquarters

Nadine Andreassen continues her hard work for the History Division by planning three special events within a span of four weeks! Fortunately, the tremendous efforts thrown into the reception celebrating the release of Boris Chertok's *Rockets and People*, the "Critical Issues in the History of Spaceflight" meeting, and the Annual History meeting at Johnson Space Center met with great success. Currently, Nadine remains busy with arrangements for the strategic planning retreat.

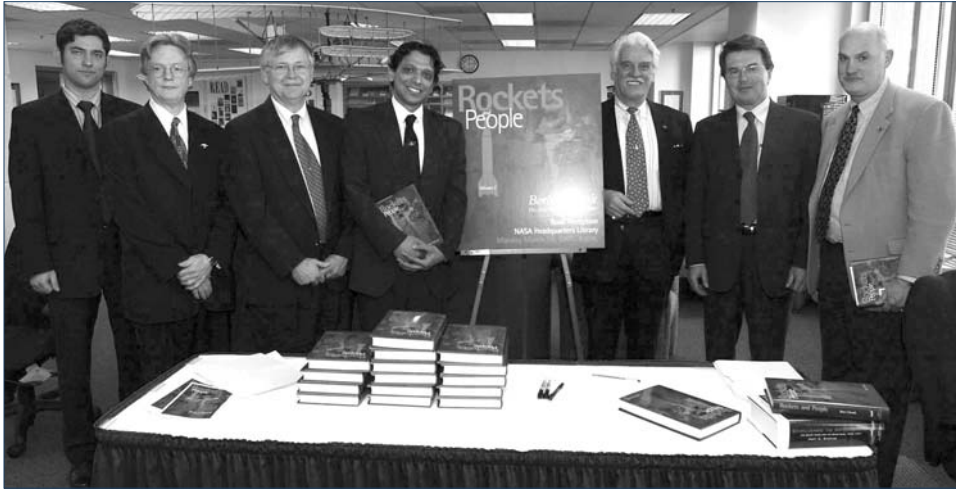
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News from Headquarters and the Centers (continued)

On 9 March 2005, General Thomas Stafford examines files in the NASA History Division archives as Dennis McSweeney from the Office of External Relations looks on.

Glen Asner officially began working for the NASA History Division on 27 December 2004. He immediately gained responsibility for shepherding a number of book projects through the publication process, including the “Realizing the Dream of Flight” conference proceedings, a book on the X-15 by Dennis Jenkins, and a RAND manuscript on the history of aerospace research and development. In order to gain a sense of what the History Division does and what it has accomplished in the last year, Glen became involved in compiling *News and Notes* and the History Division Annual Report. He also is overseeing development of the *Aeronautics and Space Report of the President for FY 2004*. Glen attended a number of conferences, including a congressional briefing conference for NASA, a conference at the National Defense University on “Eisenhower and National Security for the 21st Century,” and the annual meeting of the Oral History Association of the Mid-Atlantic Region. Along with Steve Garber, Glen has begun work on an 18-month project on the history of NASA’s Decadal Planning Team (DPT), a relatively recent strategic planning effort aimed at creating a new Vision for Space Exploration.

Giny Cheong spent the last few months assisting Nadine Andreassen with conference and event planning. The successful results included the reception for Chertok’s *Rockets and People* publication and the “Critical Issues in the History of Spaceflight” conference at the Udvar-Hazy Center. In her spare time, Giny worked on Web updates, the newsletter, and other small projects. She enjoyed the Annual History meeting at Johnson Space Center as the culmination in the successful season of special events planning.



The History Division and Space Operations Mission Directorate hosted a reception in the library to commemorate the release of Boris Chertok's *Rockets and People, Volume 1* publication on 14 March 2005. As pictured from left to right: Konstantin Serebnyakov, Roger Launius, Steven Dick, Asif Siddiqi, Jesco von Puttkamer, Yevgeniy Zvedre, and Bill Readdy.

Colin Fries finished cataloging the files of the Office of Advanced Research and Technology, Code U Office, Microgravity Office, Office of Space Shuttle Systems, Office of Applications, Equal Opportunity Program, Equal Employment Opportunity, Office of Construction, Office of Energy Programs, and Industry Affairs. In total, this amounts to 6 1/2 cubic feet. Colin and John Hargenrader finished adding Sean O'Keefe speeches to the NASA History Division database. Colin continues scanning *Current News* from 1959 and has completed through February 1962. He completed chronologies (forecast of upcoming anniversaries) for 2006 and 2007 that will eventually be made available on the History Division Web site.

Steve Garber recently attended the Annual History meeting at Johnson Space Center and enjoyed seeing numerous colleagues from across the country. At Headquarters, Steve and Glen Asner continue their research on the history of the DPT. Steve believes that the DPT study remains relevant to the present with ties to the Vision for Space Exploration.

John Hargenrader worked on reformatting, scanning, and then adding old newspaper articles from October 1957 through July 1959 to the new electronic NASA *Current News* clips files. Most of this material preceded the actual official NASA *Current News* collection, which began in August 1959, but still provides a wealth of information about events preceding and the first year of NASA's existence. As time allows, John has reorganized and reformatted the early human spaceflight program collections (Mercury, Gemini, and Apollo) news clippings into a more stable condition within the folders to extend their usefulness for researchers. He also added other material, such as copies of magazine articles found in other files, to broaden the topics in each project/program file. Magazines like *Aviation Week* and *Missiles and Rockets*, as well as other journals, contain articles on various aspects of many NASA projects and programs that appear somewhat technical, but still give a readable overview or summary. In addition, John completed adding personnel and management files to the collection and database.

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News from Headquarters and the Centers (continued)

Annette Lin recently compiled the metadata for the Plum Brook and Nimbus pictures for the Great Images in NASA photo database. She enjoys researching the biographical files on significant astronauts from the Apollo, Mercury, and Gemini era. Annette also helped prepare the new NEAR monograph for publication.

Jane Odom continues to acquire and appraise new material for the Historical Reference Collection. Currently, she is evaluating for historical value an 18-cubic-foot collection on experimental vehicle research donated by Tony Springer from the Aeronautics Research Mission Directorate. The activities of the archival standards workgroup are ongoing. Jane, Nora Blackman, Leilani Marshall, and Elaine Liston are studying archival practices and procedures Agencywide. We thank all who contributed by taking the time to answer the latest round of questions on arrangement and description. One area awaits examination—that of preservation. A final report will be issued when the study is complete. If a Center historian or archivist wishes to have an advance copy of the groups' findings, please let Jane or Nora know. Additionally, Jane recently attended the two conferences in the Washington region, "Critical Issues in the History of Spaceflight" and Oral History in the Mid-Atlantic Region, and participated in the Annual History meeting held in Houston.

Elizabeth Suckow authored the content for the NACA anniversary Web site available at <http://www.history.nasa.gov/naca/index.html>. She assisted with several History Division book projects, including the *Risk and Exploration* monograph and Michael Meltzer's *Galileo* book, and worked on archival tasks. Currently, Liz is working on an update of the Apollo-Soyuz Test Project Anniversary Web site for the upcoming 30th anniversary of the mission and developing finding aids for a project on the history of the DPT.

The Annual History meeting was held at Johnson Space Center from 5 to 7 April 2005. The next newsletter will contain the highlights of this meeting and additional pictures.

Ames Research Center

Rebuilding the NASA Ames History Office Web Sites

By April Gage

Although only a year old, the NASA Ames History Office is overhauling its public Web site (<http://history.arc.nasa.gov>). This revision is driven by continuing efforts at the Centers, in the spirit of One NASA, to make Web sites show greater affinity with the NASA Portal. In addition, we continue to find new ways to arrange the material to improve its utility and appeal to both historians and the general public. April Gage, who joined the NASA Ames History Office in September 2004 while completing her MLS degree from San Jose State University, is leading the redesign. Using Macromedia Dreamweaver on Macintosh, she is updating the site's code and style sheets, converting the HTML to XHTML, and adding new content as it is created.

Archivist Leilani Marshall has begun updating and annotating an extensive bibliography of published sources on the history of NASA Ames (<http://history.arc.nasa.gov/bibliography.htm>). As she completes her annotations, we will devise the best way to present this list on the Web and make it browsable and searchable. The "Ames History Books"

section features links to books and monographs on the history of NASA Ames that are available as PDF or HTML files from the NASA Headquarters History Division Web site. A “Shorter Pieces” section highlights recent articles that give a quick overview of NASA Ames history. A “For the Public” section features NASA Ames project highlights, a brief history of Moffett Field, and a list of those inducted into the NASA Ames Hall of Fame. In the “For Historians” section, researchers and scholars are provided with a list of finding aids for archival material concerning the Center, links to NASA legacy data archives, and a digital archive of *Astrogram* newsletters dating from 1998 to 2004.

The NASA Ames History Office also maintains an internal Web site accessible only to those working at the Center (<http://archives.arc.nasa.gov>). This contains work in progress or resources of primarily local interest. Materials produced by Jack Boyd, the NASA Ames Senior Advisor for History, are in heavy demand. Jack gives many presentations on the history and culture of NASA Ames, and his slides are made available here—in PDF slideshow and in high-resolution PowerPoint format—so that they can be viewed in advance of his talk or downloaded and adopted by others at NASA Ames for their own presentations. One highlight of the collection is a series of “Decade Slides” comprising the core content of Jack’s “Six Decades” presentation. Another highlight of the internal site is HTML lists of NASA Ames award winners—of the NASA Distinguished Service Medal and Honor Awards, Space Act Awards, and Ames Honor Awards. We are beginning a major effort, jointly with the NASA Ames human resources and technology-licensing groups, to back-fill and update this awards database, now in FileMaker format. The goal is to better track what other organizations consider the most historically significant accomplishments of the Center and why. Other features include an anniversary observation forecast calendar developed in collaboration with the Public Affairs Office. A portion of the site serves as a review area for works in progress, where feedback and corrections from our colleagues on the Center are welcome.

Dryden Flight Research Center

Chief Historian Michael H. Gorn, in addition to serving as the Acting Chief of Code T (of which History, Photo, Graphics, Video, and Technical Publications are part), has recently been asked to serve as the Society for the History of Technology representative on the American Historical Association-NASA Aerospace History Fellowship selection committee.

Christian Gelzer continues work on a biography of Paul Bikle, the first Director of the NASA Flight Research Center at Edwards AFB. He also continues editing a monograph on the X-38 Crew Recovery Vehicle. The X-38 was intended as a lifeboat for the International Space Station, but the program eventually succumbed to budget constraints. He has begun work on a new monograph about the aerodynamic truck fairing experiments conducted at Dryden. The shapes of almost all of today’s long-haul trucks are traceable to the research done by a small cadre of engineers at Dryden, starting in the early 1970s. Christian also has recently reviewed another new publication for the *Journal of Transport History*.

Peter Merlin continues work on *A Place Like No Other: Images of Flight Research*, along with Ted Huetter. This book will include dozens of previously unseen photographs illustrating the history of Dryden from 1946 to the present. Detailed captions and

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News from Headquarters and the Centers (continued)

supplementary text will give the reader an overview of the Center's accomplishments during nearly six decades of aeronautical and aerospace research. He continues working on a monograph tentatively titled *Human Factors in Aircraft Mishaps* in conjunction with Dr. Greg Bendrick, which explores the role of human factors leading to aircraft accidents. In addition to regular accessions, he also has begun cataloguing boxes of material acquired from Richard Day's widow. Day was one of the early NACA engineers at Muroc responsible for a range of dramatic contributions to aeronautics, including an inertial coupling simulator. *The Smell of Kerosene: A Test Pilot's Odyssey*, by Don Mallick and Peter Merlin, is now available in paperback from the University Press of the Pacific.

While he continues to collect material where he can, Curtis Peebles has begun to draft his history of the X-43 hypersonic flight research project. He has all but completed Volume 2 of *The Spoken Word: Beyond the Sky*. This volume covers the period of the 1960s and such projects as the X-15, lifting bodies, and the Lunar Landing Research Vehicle.

Glenn Research Center

Like other challenges the Glenn History Office has faced, we have taken our potential budget reductions head on and have again reached some creative solutions. Planning is currently underway to remove two of Glenn's historic research facilities, the Altitude Wind Tunnel and the Propulsion Systems Lab 1 and 2. Because of their historic designation, complete documentation of these buildings must be accomplished. Funding has been obtained from the Center's Historic Preservation Officer to accomplish this task. Archivist Robert Arrighi, who has extensive experience in building documentation, including the NASA Plum Brook Reactor Facility and the Rocket Engine Test Facility, will collect records documenting the facilities' construction, programs, and pending destruction. The project also will include the collection of photographs and films, as well as oral interviews with retirees. We hope that this project may result in a historical publication in the future.

Goddard Space Flight Center

The Library Systems Team is tweaking and beta-testing the Digital Archive System, which will contain and preserve the knowledge management assets from Goddard's projects and missions from program inception to date. In addition, the Goddard library has revised its Web site, now accessible under the "About Us" link at <http://library.gsfc.nasa.gov/>. Jane Riddle attended the NASA Annual History meeting in Houston from 5 to 7 April 2005.

Jet Propulsion Laboratory

Erik Conway started interviewing members of the Jet Propulsion Laboratory (JPL) Prometheus project team for his ongoing oral history project. These oral histories will become part of the project collection and ultimately part of the JPL archive collection when Prometheus closes down. For his current research goal, he would like to write an article-length treatment of the SEASAT-A mission, which began the use of space for research on physical oceanography. SEASAT-A also represented the first civilian use of active microwave sensors in orbit. He hopes to publish the article in a scholarly journal next year.

From his days at Langley Research Center, Johns Hopkins University Press will soon release Erik's new book, *High Speed Dreams*. Erik also remains busy completing a history

of atmospheric research at NASA, with the first draft due in June 2005. This book examines the evolution of NASA research from satellite meteorology into atmospheric chemistry and climate research, 1960 to 1999.

Finally, Yale University Press accepted Peter Westwick's new history of JPL, and he recently returned the copyedited manuscript to the press.

The JPL archives and the JPL library are now partnering on responding to historical research requests about this NASA Center. Researchers are directed first to the library reference desk with their inquiries. The reference librarians search the various resources available to them, including the archives online catalog (<http://beacon.jpl.nasa.gov/Find/FindArchivesCat.htm>), to fill the request. If more extensive research in the archives collections is required, the query is referred to Julie Cooper, staff archivist, or Michael Hooks, Chief Archivist. NASA researchers are requested to call the library reference desk at 818-354-4200 or send e-mail to archives@jpl.nasa.gov (which is directed to the library) for assistance. Public researchers are required to file a Freedom of Information Act (FOIA) request with the NASA FOIA Officer at JPL (<http://cercla.jpl.nasa.gov/FOIA/>).

Johnson Space Center

During the past few months, Rebecca Wright, Sandra Johnson, and Jennifer Ross-Nazzari of the NASA Johnson Space Center (JSC) History Office presented information on various topics at a number of different venues.

In February, the team conducted a workshop for fourth- and seventh-grade Texas history teachers on History Awareness Day sponsored by the Texas Education Agency and Texas State Historical Association. Held in Victoria, Texas, the JSC history team presented *Oral History Projects: Opportunities for Multi-skills Learning* and emphasized how students can benefit from the skills utilized when preparing for and conducting oral history sessions. The staff used a number of references to NASA history as examples and gave the teachers a simplified lesson plan on how to use NASA oral history in classroom projects. For those not ready to implement oral history projects, the staff provided information about oral history projects available online for immediate use, including the JSC and Shuttle-Mir oral histories.

At the Texas State Historical Association annual meeting, the JSC History Office staff members presented a paper titled *The Community of the Moonwalkers: How NASA Impacted the Clear Lake Area, 1962–1972*. The presentation, given in March in Fort Worth, Texas, was part of a panel focusing on the impact of a government institution on an area. Included in the information were excerpts from the oral history collections at JSC, before-and-after photos of the area, and statistics reflecting the growth of the community surrounding the Space Center in Houston. The paper will be expanded and published in the journal of the Texas Oral History Association, the *Sound Historian*, in early 2006.

In mid-March, NASA Chief Historian Dr. Steve Dick joined with the JSC history team to present "Oral History at NASA" at the joint meeting of the Society for History in the

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News from Headquarters and the Centers (continued)

Federal Government and the Association of Oral History in the Mid-Atlantic Region. The NASA team shared details of the methods, challenges, and results of the multiple oral history projects sponsored by the NASA Headquarters History Division and the Johnson Space Center.

In other news, JSC Historian Dr. Jennifer Ross-Nazzal was awarded the New Professional Award by the National Council on Public History. She received the honor during an awards banquet in Kansas City, held during the organization's annual conference.

Also, Rebecca Wright was elected Vice President of the Texas Oral History Association for the next two years. As part of her duties, she will be coordinating a program to be presented at the 2006 Texas State Historical Association 110th Annual Meeting.

The team is currently preparing for the arrival of five students who will be serving as research interns in the JSC History Office this summer.

Kennedy Space Center

Go Atlas! Go Centaur! That was the theme of the historical reunion on 25 February to celebrate the achievements of Centaur, an upper-stage rocket used by NASA since the early 1960s. With a single exception, every NASA spacecraft bound for the outer planets has been launched using Centaur. NASA Kennedy Space Center (KSC) and Lockheed Martin hosted the event at the Atlas Spaceflight Operations Center (ASOC). The celebration included speeches by Jim Kennedy, KSC Center Director; U.S. Air Force Brigadier General (Select) Mark Owen, Commander, 45th Space Wing; Steve Francois, Director, Launch Services Program Office; Adriane Laffitte, Director, Atlas Programs at Cape Canaveral; and Jim Sponnick, Lockheed Martin Atlas Program Vice President. The guest speaker for the event was Dr. Virginia Dawson, co-author of *Taming Liquid Hydrogen: The Center Upper Stage Rocket*. Dr. Dawson was presented with a snow globe containing Centaur weld sandings from the last Atlas Centaur launch vehicle. Attending the event were over 150 Centaur program veterans. After the round of speeches, veterans lined up for a book signing by Dr. Dawson and then proceeded to tour Lockheed Martin's ASOC facility. Following a barbecue lunch, guests were bused to other significant Centaur facilities, including Hangar AE, Complex 36 blockhouse, and Complex 41. Ann Burke from Glenn Research Center visited KSC to attend this event, but also spent time in the archives, visited KSC record storage areas, and toured parts of Launch Complex 39.

Marshall Space Flight Center

NASA Historians Learn More About New Archiving Format

Tom Carson, Director of Curriculum Development for the New Economy Institute in Chattanooga, Tennessee, spoke to NASA historians and others attending the NASA History Advisory Council Meeting in Houston in March.

Carson has trained over 200 people at the Marshall Space Flight Center (MSFC) in Huntsville on using the Portable Document Format as a knowledge-management and engineering tool. His presentation in Houston focused on how to use the format for archiving and retrieving historical documents.

“We have used this capability to convert 44 years worth of *Marshall Star* newspapers into text-searchable documents. We can word-search thousands of pages in seconds,” said Mike Wright, the MSFC historian. The history team at MSFC also has transformed many other documents from hard copy to the new format.

“Dr. Wernher von Braun kept a daily journal when he served as the first Director of the Marshall Center from 1960 until 1970. We will soon have the capability to do full-text searches on his journals, as well as on hundreds of other documents,” said Steve Durham, supervisor of internal communications at MSFC.

The New Economy Institute is funded under the Congressional Workforce Aging Management Program to work with the Oak Ridge National Laboratory, Arnold Engineering Development Center, Redstone Arsenal, and MSFC to work on impending problems anticipated by the loss of knowledge through retirements and attrition.

For more information, contact Tom Carson via e-mail at tcarson@neiweb.org.

Stennis Space Center

The new year brought with it visits by two unique astronauts to NASA Stennis Space Center (SSC). Both astronauts have made significant contributions in the history of human spaceflight, and the SSC History Office was there to document the visits to SSC. NASA Astronaut Michael Fincke spoke to SSC employees and more than 250 students on 25 January. The two schools participating were NASA Explorer Schools. Fincke was a member of the Expedition 9 crew that docked at the International Space Station in April 2004. The mission concluded with a safe landing on 23 October 2004. Fincke also became the first U.S. astronaut to celebrate the birth of his child while he orbited Earth from 225 miles in space. Astronaut Don Peterson visited SSC on 22 February. Born in Winona, Mississippi, Peterson became a NASA astronaut in September 1969 after graduating from the U.S. Military Academy at West Point. He served on the astronaut support crew for *Apollo 16*. Peterson was a mission specialist on STS-6 aboard the maiden voyage of Space Shuttle *Challenger*, which launched from Kennedy Space Center on 4 April 1983. During this mission, Peterson and Dr. F. Story Musgrave (mission specialist) conducted an extravehicular activity.

OTHER HISTORY NEWS

Robinson Prize Awarded

The National Council on Public History announced Andrew J. Butrica’s *Single Stage to Orbit: Politics, Space, Technology, and the Quest for Reusable Rocketry* as the 2005 Robinson Prize winner. The Robinson Prize commemorates the legacy of Michael C. Robinson, a public works historian who promoted historical research as a significant part of policy formation. His colleagues established this prize to recognize historical studies that contribute directly to the formation of public policy. Butrica has several prior publi-

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Other History News (continued)

cations, including *Out of Thin Air*, *Beyond the Ionosphere* and *To See the Unseen*. He currently works as a historian for the Defense Acquisition History Project researching and writing *From the Reagan Buildup to the End of the Cold War, 1981–1990*, Volume 4.

Glenn Research Center Recognized

The history and archival staff at Glenn Research Center (GRC) received recognition from several sources recently. Kevin Coleman received the first annual NASA History Division Award from Dr. Steve Dick during the Annual History Review and a One NASA Peer Award from the Center Director at GRC. In addition, Jim Polaczynski will accept an award for NASA Videographer of the Year and a Group Achievement Award for the documentary *Of Ashes and Atoms*. The groundbreaking, professionally produced documentary film compellingly tells the local story as well as conveys the national interest in early experiments

for nuclear research. Adding significance to the NASA History Program, the team producing *Of Ashes and Atoms* surpassed NASA's goal of education, community outreach, and the use of innovative and creative methods.



Kevin Coleman shares his first annual NASA History Division Award with Mr. Charles Scales, Director of Center Operations at Glenn Research Center.

National Air and Space Museum

Several members of the National Air and Space Museum's (NASM) staff attended the 18th annual Mutual Concerns of Air and Space Museums Seminar held in Seattle, Washington, from 19 to 22 March. In this first "on the road" version of the seminar, the Museum of Flight hosted over 150 speakers and participants from museums in the United States, Canada, New Zealand, England, Sweden, Norway, and Austria. An additional 15 companies and organizations showcased new exhibit design techniques and technologies in the marketplace on the conference's first full day. In addition to serving as chairs in many sessions, NASM staff also gave presentations including David DeVorkin and education staff on the Discovery Cart program in the Exploring the Universe gallery; Valerie Neal and Ed Mautner on the restoration of the Space Shuttle *Enterprise*;



Liz Garcia, Helen Claire McMahon, and Carl Bobrow at the 18th annual Mutual Concerns of Air and Space Museums Seminar. Picture provided by Jennifer Skomer.

and Eric Long and Carl Bobrow on digital photography techniques. Attendees also were taken on tours of Boeing's 747 assembly building and facilities in Arlington, Washington, and Paul Allen's Flying Heritage Collection.

In April, Valerie Neal plans to present a paper entitled "Mourning our Astronauts: Public Commemoration after the Space Shuttle Tragedies" at the annual meeting of the Western Social Science Association in Albuquerque.

Centennial of Flight Series

Roger Launius, series editor, announced the Centennial of Flight series published by the Texas A&M University Press. The series started before the 2003 anniversary of the Wright brothers' accomplishment and has now published 14 titles, with another one due out in the fall of 2005. In addition, Dr. Launius seeks new and innovative manuscripts for the series. Interested authors may contact him by e-mail at launiusr@si.edu.

**Centennial of Flight Series
Texas A&M University Press
Books Published
as of 10 March 2005**

1. *America's Airports: Airfield Development, 1918–1947* (October 2001), by Janet R. Daly Bednarek. This book explains how airports started as private endeavors and evolved into huge government institutions with local, state, and federal involvement. By 1947, Bednarek concludes, the basic system of public/private involvement in the airport infrastructure had been solidified.
2. *American Military Aviation: The Indispensable Arm* (October 2002), by Charles J. Gross. This is an up-to-date synthesis of American military aviation. The author argues that for all of the arguments from air power advocates in favor of the use of the airplane for combat operations to the exclusion of ground and naval forces, we are still dependent on land and sea forces for the execution of military power.
3. *Like Sex with Gods: An Unorthodox History of Flying* (June 2003), by Bayla Singer. This is an insightful history of the dream of flight before the achievement of flight in the 20th century. The author argues that human flight is not a simple matter of science and technology, but rather a continuing epic of dreams and obsession, of yearning and striving to harness the intellect in the service of the emotions.
4. *Dreams of Flight: General Aviation in the United States* (May 2003), by Janet R. Daly Bednarek and Michael H. Bednarek. This history encompasses all the ways aircraft are used beyond commercial and military flying. The authors focus on the most important figures and organizations in general aviation and the major producers of general aviation aircraft and engines.
5. *100 Years of Air Power and Aviation* (November 2003), by Robin Higham. This is the first genuine attempt to write a comprehensive overview of the history of air power since the author first published *Air Power: A Concise History* in 1972. Higham is at his best in syn-

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Other History News (continued)

thesizing the interrelationships of air power from nation to nation and conflict to conflict. He is equally at home with American, European, and Asian aspects of the story.

6. *The Bird is on the Wing: Aerodynamics and the Progress of the American Airplane* (December 2003), by James R. Hansen. This is a fine historical analysis of the current state of aeronautical technology. The author provides an easily understandable introduction to the role of aerodynamics in the design of such historic American aircraft as the DC-3, X-1, and 747, and presents a history of aircraft technology and a collective biography of those who created flight.
7. *Imagining Flight: Aviation and Popular Culture* (December 2003), by A. Bowdoin Van Riper. This study considers how people outside the aviation business have looked at, dreamed about, and worried over powered flight in the century since the Wright brothers first showed the world that it was possible. The author suggests that flight offered both practical and emotional salve to humanity's needs.
8. *The First Space Race: Launching the World's First Satellite* (September 2004), by Matthew A. Bille and Erika R. Lishock. The authors have written a fine historical synthesis of the period between the mid-1950s and the aftermath of Sputnik, focusing on the rivalry between the United States and the Soviet Union to launch the first orbital satellite.
9. *Electronics in the Evolution of Flight* (October 2004), by Albert Helfrick. This book traces the paired history of modern aviation and electronics, or avionics, from its earliest years to today. Albert Helfrick, who for 25 years designed avionics for NASA and Boeing, considers the roles played by the famous and the obscure in the creation of aviation technology.
10. *Flying Down to Rio: Hollywood, Tourists, and Yankee Clippers* (November 2004), by Rosalie Schwartz. The author uses the 1933 RKO-Radio Pictures production *Flying Down to Rio* to examine the interplay of technology and popular culture that shaped a distinctive 20th-century sensibility. Schwartz's narrative follows the fortunes of aviation and movie pioneers and the foundations and growth of Pan American Airways and RKO-Radio Pictures.
11. *Sky as Frontier: Adventure, Aviation, and Empire* (November 2004), by David T. Courtwright. Aviation's frontier stage lasted a scant three decades, then vanished as flying became a settled experience. *Sky as Frontier* shows how commercial and military imperatives destroyed this pioneer world by routinizing flight. Along the way, Courtwright considers dogfighting, barnstorming, airmail pilots, airlines, air power during WWII, and flight's impact on the environment.
12. *Spying from Space: Constructing America's Satellite Command and Control Systems* (January 2005), by David Christopher Arnold. The author tells the story of how military officers and civilian contractors built the Air Force Satellite Control Facility to support the National Reconnaissance Program. This book fills a gap in space history by telling the story of the command and control systems that made rockets and satellites useful.

13. *Into the Wild Blue Yonder: My Life in the Air Force* (April 2005), by Allan T. Stein. The author, a veteran pilot who ended his career as the Inspector General of the Civil Air Patrol, offers here an account of a typical career as an Air Force pilot, complete with its frustrations, moral dilemmas, and the occasional harrowing experience.
14. *From the Pilot Factory, 1942* (April 2005), by William P. Mitchell. Because his mother kept his wartime letters, readers of this book can catch glimpses of a world long vanished and an era that now seems innocent and naive. Mitchell's letters remind us that learning to fly was a romantic and unexpected adventure for the young men who flew for the USAAF.

ARCHIVAL UPDATE

Setting Up the NASA Ames History Office Archives: A Retrospective

By Leilani Marshall

The NASA Ames History Office was established in October 2003 with a threefold agenda: to respond to the research and history needs of the public and the NASA Ames community; to support research, writing, and oral history projects; and to process, store, and provide access to documents and artifacts related to NASA Ames history. In support of these objectives, the NASA Ames History Office established an archives section and hired me to take on the challenge of developing and managing it.

Like the History Office itself, the archives started from scratch, both physically and administratively. The archives project did not inherit material, collections, or space from any previous body committed to preserving NASA Ames history, nor did it receive any administrative documentation to serve as a foundation for its archival activities. The History Office acquired materials, set up shop, and developed policies and procedures while simultaneously beginning to meet the historical needs of the NASA Ames community.

Meeting the Physical Challenges

The first challenge was to find a storage location for materials that the History Office began to collect. Senior Advisor for History Jack Boyd was able to acquire nearby space that now also doubles as a staging ground for materials that are sent to the Federal Records Center in San Bruno, California. Working closely with the Plant Engineering Branch, we supervised the conversion of a high bay in the same building as the History Office from a room littered with cast-off and obsolete office equipment into a suitable storage facility for archival collections and artifacts with historical value.

Unfamiliar with archival techniques for establishing a suitable storage area, I researched Web sites and read contemporary books to understand how museums and archives approached the subject. Some helpful manuals for museum best practices included the

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Archival Update (continued)

National Park Service Museum Handbook and the State Historical Society of Iowa's *Field Guide for Museums*, both of which can be found online. Some helpful documentation that I found online for storing and preserving paper records included the National Information Standards Organization technical report TR01-1995, *Environmental Guidelines for the Storage of Paper Records*; the Canadian Council of Archives' *Basic Conservation of Archival Materials*, of which chapter three addresses environmental conditions; the article "Our Environment Ruined? Environmental Control Reconsidered as a Strategy for Conservation," from the *Journal of Conservation & Museum Studies*; the "Preservation Page" of the National Archives and Records Administration Web site; and the Northeast Document Conservation Center technical leaflet "Monitoring Temperature and Relative Humidity." Two museum books I consulted were *The New Museum Registration Methods*, published by the American Association of Museums, and *Introduction to Museum Work*, published by Alta Mira Press for the American Association for State and Local History.

While only a few of these sources included federal guidelines for storing and preserving materials, the museum and archival standards I found were extremely useful, resulting in our being able to use the high bay as a storage space for the NASA Ames History Office materials. Bringing up the high bay to the minimal standards for archival storage required a thorough cleaning of the space, setting up of shelving units, sealing those units with polyurethane paint to inhibit the escape of chemicals from the plywood shelves, and lining the shelves with thin sheets of polyethylene foam to further protect collections that would be stored on them. Although adequate for present storage purposes, other environmental controls, such as those for maintaining proper lighting, humidity, and temperature, could be improved.

We converted a second room, the former control room located in the high bay, into a reading room with shelves for storage and a workspace for History Office staff. Setting up the room entailed putting up metal shelves for document box and artifacts storage, gaining control over the heating and cooling system, researching environmental standards and controls, and upgrading the remaining space for researchers who are likely to bring in laptops and other equipment while they use our collections. We also addressed the issue of permanent storage containers at this time, since the shelves in the reading room would house many of the collections we plan to acquire over time. Keeping to the standards of the National Archives and Records Administration and the general archives community, the History Office procured archival-quality folders, boxes, envelopes, and sleeves for storing and managing documents, artifacts, and photographs. We have been putting these items to good use as we continue to process our collections.

Meeting the Administrative Challenges

As the physical construction of the archives began, papers, documents, and artifacts started trickling in from NASA Ames scientists and engineers who heard about the History Office. It became apparent immediately that we needed to create policies and procedures for the archival functions to run smoothly.

Developing the policies and procedures that I thought would best serve the History Office in its obligations as an archival repository took months to complete. Not wanting to reinvent the wheel, I contacted several federal agencies and inquired about their archival

policies and procedures. I was surprised to learn that few had any insight or direction to offer. Most of the offices with archival responsibilities, it turned out, were extensions of records management programs and relied on different methods and standards for acquisition, accession, description, and storage and retrieval. In the end, I drew on several alternate sources to develop the History Office manual, including my own previous experiences working with archival collections and standards; the knowledge I gained serving on the NASA History Office Archival Standards Committee with Jane Odom, Nora Blackman, and Elaine Liston; and standards that I found online from both federal and public institutions. The third source provided the most practical direction, and I was able to write the manual by borrowing liberally from the policies, manuals, and guidelines that I found on the Web sites of recognized archival, library, museum, and records management authorities, such as the Library of Congress, the National Archives and Records Administration, the National Park Service, the Society of American Archivists, and universities such as Yale, UT-Austin, and SUNY at Albany.

The NASA Ames History Office manual followed the standards of the archival community to as great an extent as possible. Fundamental archival principles such as provenance and original order were built into the policies, as were guidelines for appraising and directions for acquisition, accession, de-accession, and description. The History Office collections were described using standards such as the Library of Congress subject headings, NASA Thesaurus subject headings, the MARC 21 format, *Describing Archives: A Content Standard*, and Encoded Archival Description (EAD), as established and described in the manual. When we process the collections, we catalog them in the MARC 21 format, and we keep the records on the History Office database, in preparation for possibly adding the records to the NASA library catalog, and thus using that database as another access point for the collections. We chose EAD as the online way to provide access to our final finding aids because it is more versatile than HTML and retains the hierarchical structure of description. The portal for the Ames History Office finding aids is the Online Archive of California, which is an initiative of the California Digital Library. The History Office finding aids can be accessed online at <http://www.oac.cdlib.org/institutions/ark:/13030/tf6q2nc0cc>.

The manual further describes the History Office collections, which include a broad range of materials such as Jack Boyd's lectures on the history of NASA Ames Research Center and aviation history; the working files of the business of the History Office; the library reference collection of books on NASA, aeronautics, aviation, and space history; and the collections of documents and artifacts related to NASA Ames history. The policies in the manual also cover basic issues such as documenting materials as they are received by the History Office, access to the collections, reproduction of photographs, copyright law, and reading room regulations. The structure of the History Office databases is also explained, and guidelines for cataloging the collections in MARC 21 format are outlined.

Although the policy manual has been completed, the NASA Ames History Office staff is still in the process of reviewing it. Managing the materials that come through our doors will be much easier once the History Office has accepted the policy manual. I learned a great deal while writing the manual and establishing the guidelines for the operations of the History Office. In particular, I came to appreciate the collective knowledge, insight,

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Archival Update (continued)

and information that the archives community has developed over the decades, as well as the willingness of archivists to share their knowledge and experiences with each other.

Establishing and Meeting Future Goals and Objectives

Now that the NASA Ames History Office archives project has fundamental policies in place (or nearly so), I hope that we can move forward to work on the backlog of collections that remain unprocessed. Even though the History Office has existed for only a year and a half, we already have responsibility for collections that take up more than 200 linear feet of shelf space. Making the collections useful for researchers is one of the History Office's largest challenges. We have not experienced great difficulty meeting the information needs of our users, a community which so far has included other NASA Ames employees and NASA researchers. Our finding aids online, however, allow us to serve a much larger community.

The first year and a half for the Ames History Office archives has been eventful, interesting, and quite busy. I'm pleased to say that we have come a long way during that time, and I'm looking forward to continuing to develop the collections and providing greater access to them as more material comes to this office.

PUBLICATIONS**New NASA Publications**

Rockets and People, Volume 1 (NASA SP-2005-4110). This translation of the memoirs of Russian space pioneer Boris Chertok contains a rich firsthand account from the beginning of his career. Chertok describes his early years as an engineer in aviation and concludes the first volume at the end of WWII with the Soviet capture of German technology. Please order by contacting the NASA Center for Aerospace Information at 7121 Standard Drive, Hanover, Maryland 21076, 301-621-0390, or order online at <https://www.sti.nasa.gov/cgi-bin/ordersti.pl>. Please mention the title and NASA Report #NASASP20054110. The price code is A03 (\$27.50 within the U.S. plus \$2 for shipping and handling).

Shared Voyage: Learning and Unlearning from Remarkable Projects, by Alex Laufer, Todd Post, and Ed Hoffman (NASA SP-2005-4111). This book details four (two NASA and two Department of Defense) case studies in aerospace project leadership using an innovative "story telling" approach that is highly readable. Please order by contacting the NASA Center for Aerospace Information at 7121 Standard Drive, Hanover, Maryland 21076, 301-621-0390, or order online at <https://www.sti.nasa.gov/cgi-bin/ordersti.pl>. Please mention the title and NASA Report #NASASP20054111. The price code is A03 (\$27.50 within the U.S. plus \$2 for shipping and handling).

Fueling Space Exploration: The History of NASA's Rocket Engine Test Facility DVD (NASA SP-2005-4607). This DVD contains a 25-minute and a condensed 7-minute documentary video on the RETF, which used to be a part of the NASA Glenn Research Center. RETF employees performed pioneering research from 1957 to 1995 on liquid

hydrogen propulsion on the Centaur and Saturn rockets, as well as the Space Shuttle. Declared a National Historic Landmark in 1984, the RETF officially closed in 1995 and was torn down in 2003 to make way for the Cleveland airport's expansion.

Of Ashes and Atoms: A Documentary on the NASA Plum Brook Reactor Facility DVD (NASA SP-2005-4605). This film was written, produced, and directed by James Polaczynski, with cowriter Robert Arrighi. Narrated by Kate Mulgrew (Captain Janeway of the *Star Trek Voyager* series), this documentary illustrates the history behind Plum Brook Reactor Facility, operating from 1962 to 1973 as one of the first nuclear test reactors built in the United States and the only one built by NASA. While the reactor never reached its full potential, the personnel who worked there made great achievements in terms of scientific discovery, as well as building, operating, and safely deconstructing a nuclear reactor. Plum Brook's rich history has significant lessons in terms of management, environmental stewardship, painstaking engineering, and scientific investigation.

Both the *Fueling Space Exploration: The History of NASA's Rocket Engine Test Facility* and *Of Ashes and Atoms: A Documentary on the NASA Plum Brook Reactor Facility DVDs* are available by sending a self-addressed envelope for each DVD with appropriate postage (typically \$1.90 within the U.S., \$2.30 for Canada, and \$5.60 for overseas; international customers are asked to purchase U.S. postage through an outlet such as <http://www.stampsonline.com>) to the NASA Headquarters Information Center, 300 E Street SW, Room 1H23, Washington, DC 20546-0001, 202-358-0000.

Low-Cost Innovation in Spaceflight: The History of the Near Earth Asteroid Rendezvous (NEAR) Mission, by Howard E. McCurdy. This is an insightful study of the management practices on the NEAR mission that originated as an unsolicited proposal from the Johns Hopkins University's Applied Physics Lab after the CRAF mission was canceled. This monograph is available online at <http://history.nasa.gov/monograph36.pdf> or by sending a self-addressed 8"x11" flat-rate Priority Mail envelope to the NASA History Division, Office of External Relations, Mail Stop CO72, NASA Headquarters, Washington, DC 20546.

High-Speed Dreams: NASA and the Technopolitics of Supersonic Transportation, 1945-1999, by Erik Conway. This valuable history focuses on the commercial research efforts and politics surrounding American supersonic transport technology. The book is available from Johns Hopkins University Press.

Forthcoming NASA Publications

Project Apollo: The Tough Decisions (Monograph 37), by Dr. Robert C. Seamans, Jr. This monograph expands upon the NASA chapter of his autobiography, *Aiming at Targets* (NASA SP-4106). The monograph should be published by June 2005.

NASA and the Environment: The Case of Ozone Depletion (Monograph 38), by Henry W. Lambright. This manuscript examines NASA's steps toward policy addressing ozone depletion, including the emergence of the ozone problem, creation of a program, implementation, and institutionalization. The monograph should be published by June 2005.

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Publications (continued)

New Non-NASA Publications

Big Dish: Building America's Deep Space Collection to the Planets, by Douglas Mudgway. The book describes the success of NASA's visionary Deep Space Network (DSN), a communications grid that allows remote control of unmanned spacecraft. Mudgway brings his practical experience from the development of the DSN in the 1960s through the technological success of the 1990s. For more information, please visit the University Press of Florida Web site online at <http://www.upf.com/book.asp?id=MUDGWS05>.

Assessment of Options for Extending the Life of the Hubble Space Telescope, from the Space Studies Board (SSB). This report by the Committee on the Assessment of Options for Extending the Life of the Hubble Space Telescope examines the options for prolonging the active use of the Hubble and concludes that the most effective choice remains the Shuttle-servicing mission. Free copies are available as long as supplies last from the SSB office by calling 202-334-3477 or e-mailing SSB@nas.edu. The report also is available online at <http://books.nap.edu/catalog/11169.html>.

Pathways to the Planets, by John Strand. This book provides a firsthand account of the author's experience at the Jet Propulsion Laboratory. He reveals the human effort behind the exploration of outer space. For more information, please visit <http://www.pathwaystotheplanets.com/index.php>.

New NASA Web Site

The new National Advisory Committee for Aeronautics (NACA) Web site was authored by Elizabeth Suckow and designed by Todd Messer. This informative site commemorates the origins of NASA as the NACA and is now available at <http://history.nasa.gov/naca/index.html>.

AEROSPACE HISTORY IN THE NEWS

NASA Celebrates 90 Years of Aeronautics Excellence

On 3 March 2005, NASA marked the 90th anniversary of its predecessor, the National Advisory Committee for Aeronautics (NACA). President Woodrow Wilson created NACA to "direct and conduct research and experimentation in aeronautics, with a view to their practical solution." Beginning in March 1915, NACA researched new aeronautical innovations and provided technical advice for the American aviation industry. Successful projects included a low-drag streamlined cowling for aircraft engines adopted by aircraft manufacturers, the supersonic wind tunnel, and the blunt-body concept. On 1 October 1958, NACA officially transformed into NASA through the National Aeronautics and Space Act of 1958.

The New Age of Planetary Science

On 22 March 2005, NASA's Spitzer Space Telescope discovered the first two known planets orbiting stars other than our Sun. The Jet Propulsion Laboratory manages the mission,

and the Spitzer Science Center conducts operations. Spitzer found the extrasolar planets through the “wobble” and “transit” techniques. The first involves the gravitational pull of a planet on its parent star that creates a wobble. The second causes a dimming of the star when a planet passes in front. The Spitzer data also shows the surface of both planets at 1,000° Kelvin (1,340° Fahrenheit), and further observation using infrared wavelengths will provide more information. Thanks to Spitzer, the ability to measure and compare extrasolar planets ushers in a new age in planetary science. For more information about the Spitzer Space Telescope online, please visit <http://www.spitzer.caltech.edu/Media>.

15th Anniversary of the Hubble Space Telescope

On 25 April 2005, the Hubble Space Telescope celebrated its 15th anniversary with new pictures of the Eagle Nebula and the Whirlpool Galaxy (spiral galaxy M51). The new mural-sized celestial images taken with Hubble’s newest camera, the Advanced Camera for Surveys, were unveiled at the Smithsonian’s National Air and Space Museum in Washington, DC.



The Space Shuttle Discovery placed the Hubble into Earth orbit on 25 April 1990 and allowed scientists to take the first pictures outside the atmosphere. During the last 15 years, Hubble captured over 750,000 spectacular photos of the cosmos. Hubble also contributed to many scientific achievements, such as proving the existence of supermassive black holes, providing sharp views of a comet hitting Jupiter, and showing the common process of forming planetary systems. The Hubble project continues as an international cooperative effort by NASA and the European Space Agency.

New NASA Administrator

Michael D. Griffin was sworn in as the 11th Administrator of NASA on 14 April 2005. In a special address at NASA Headquarters, Griffin expressed his commitment to the President’s Vision for Space Exploration and to maintaining “vigorous programs in both robotic and human space exploration, as well as in Earth science and aeronautics.” His priorities also include: flying the Shuttle safely until its retirement in 2010; completing the International Space Station; encouraging partnerships with private industry; putting a new Crew Exploration Vehicle into service; and establishing a lunar return program. Griffin emphasized his confidence in the ability of NASA to maintain strong, well-balanced programs in science, exploration, and aeronautics within the context of the Vision for Space Exploration.



Michael Griffin, 11th Administrator of NASA, at his Senate confirmation hearing on 12 April 2005. Photo credit: NASA/Renee Bouchard.

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Aerospace History in the News (continued)

Griffin has extensive experience in academia, industry, and government. He earned a bachelor's degree in physics from the Johns Hopkins University and a Ph.D. in aerospace engineering from the University of Maryland. Along the way, he also received master's degrees in electrical engineering, aerospace science, applied physics, business administration, and civil engineering. Griffin came to NASA from the Johns Hopkins University, where he served briefly as the head of the Applied Physics Laboratory's Space Department. His administrative experience includes a stint as the head of In-Q-Tel, a CIA-backed nonprofit venture established to encourage the growth of companies working on technologies relevant to the mission of the agency. In the 1990s, he worked for Orbital Sciences Corporation in a variety of positions, including CEO of the company's Magellan Systems subsidiary. Griffin worked in the 1980s as the Deputy for Technology at the Strategic Defense Initiative Organization. He also served in the early 1990s as NASA's Chief Engineer and Associate Administrator for Exploration.

UPCOMING MEETINGS/EVENTS

From 19 to 22 May 2005, the National Space Society will hold the 24th International Space Development Conference entitled "Your Ticket to Space" in Washington, DC. Papers will include topics of exploration, commercialization, science, and more. For more information, please visit the ISDC 2005 Web site at <http://isdc.nss.org/2005/>.

From 27 to 29 May 2005, McGill University will host the seventh annual conference of "The Space Between: Literature and Culture, 1914–1945" in Montreal, Quebec, Canada. The conference will "explore the manifestations, effects, and representations of the new technologies of the 1914–1945 period," including flight and the technologies of production. For more information, please contact Robin Feenstra by e-mail at robin.feenstra@mail.mcgill.ca or visit the Web site at <http://www.precursors.org>.

From 1 to 3 June 2005, the American Helicopter Society (AHS) will host its 61st annual forum and technology display at the Gaylord Texan Resort in Grapevine, Texas. For more information, please contact the AHS International Vertical Flight Society by e-mail at kim@vtol.org or visit the Web site at <http://www.vtol.org>.

From 2 to 3 June 2005, Siena College will host a symposium entitled "World War II—A 60-Year Perspective," with presentations featuring the year of 1945. For more information, please contact Dr. Karl Barbir by e-mail at barbir@siena.edu.

From 22 to 25 June 2005, The Society for Historians of American Foreign Relations will hold its annual conference themed "The Past Is Never Far Away" at the University of Maryland and the National Archives at College Park, Maryland. For more information, please contact Christopher Jespersen by e-mail at tcjespersen@ngcsu.edu.

From 28 to 29 June 2005, the Office of the Historian, U.S. Department of State, will host a conference on the history of United States policy in South Asia during the 1960s and early 1970s at the Department of State, Washington, DC. The conference will complement

the forthcoming release of *Foreign Relations of the United States, Volume XXI: South Asia Crisis, 1971*. For more information, please contact Dr. Kristin Ahlberg by e-mail at ahlbergkl@state.gov or visit the Web site at <http://www.state.gov/r/pa/ho/39543.htm>.

From 15 to 17 July 2005, the Center for the Study of War and Society and the University of Tennessee Press will host a conference on the 60th anniversary of the atomic bomb and the impact of the development of nuclear weapons on American society and culture. For more information, please contact G. Kurt Piehler, Director of the Center for the Study of War and Society, by e-mail at gpiehler@utk.edu or visit the Web site at <http://web.utk.edu/~csws>.

On 29 July 2005, the University of Miami will host the “Longest War: Vietnam, 1945–1975” in Miami, Florida. Topics will include U.S. and North Vietnamese military strategies, the Nixon administration’s policies, and Vietnamization. For more information, please contact Charles Neu by e-mail at cneu@bellsouth.net.

From 24 to 30 July 2005, the International Committee for the History of Technology will present “Electronics in the 20th Century: A Symposium” as a part of its participation in the 22nd International Congress of History of Science with the theme of “Globalization and Diversity: Diffusion of Science and Technology Throughout History” in Beijing, China. For more information, please contact Alexander Magoun by e-mail at amagoun@davidsarnoff.org or visit the Web site at <http://2005bj.ihns.ac.cn/index.frame.htm>.

From 7 to 11 August 2005, the American Astronautical Society (AAS) and the American Institute of Aeronautics and Astronautics will cosponsor the Astrodynamics Specialist Conference at Lake Tahoe, California. Paper topics will include orbital dynamics, perturbations, and stability; low thrust mission and trajectory design; and artificial and natural space debris. For more information and the full range of topics, please visit the AAS Space Flight Mechanics Committee Web site at <http://www.space-flight.org/>.

From 15 to 21 August 2005, the Society of American Archivists will hold their annual meeting in New Orleans, Louisiana. For more information, please visit the Web site at <http://www.archivists.org/conference/index.asp>.

From 30 August to 1 September 2005, the American Institute of Aeronautics and Astronautics will host the Space 2005 conference in Long Beach, California. For more information, please visit the Web site at <http://www.aiaa.org>.

From 7 to 9 September 2005, the NASA Office of Logic Design will hold the eighth annual Military and Aerospace Programmable Logic Devices International Conference at the Ronald Reagan Building and International Trade Center in Washington, DC. The topics include programmable logic devices and technologies, digital engineering, and related fields for military and aerospace applications. For more information, please visit the Web site at <http://klabs.org/mapld05/>.

IMAGES FROM SPACE HISTORY



In the photograph above, workers in the Spacecraft Assembly and Encapsulation Facility-2 at Kennedy Space Center attach the solar array panels to the Near-Earth Asteroid Rendezvous (NEAR) spacecraft. After the fueling and battery installation, the spacecraft launched on a Delta II expendable launch vehicle provided by McDonnell Douglas. After a one-day delay, the NEAR spacecraft lifted off from Cape Canaveral Air Station at 3:43 p.m. EST, 17 February 1996.

In late 1993, the NEAR mission gained funding from the “faster, better, cheaper” initiative and began the innovative Discovery program for smaller scale planetary missions with focused science objectives. Managed by the Johns Hopkins Applied Physics Laboratory, scientists, engineers, and officials spent 27 months creating the 468-kilogram (1,032-pound) NEAR spacecraft that amazingly arrived at a total cost of \$3.6 million under budget. The NEAR spacecraft design emphasized simplicity, reliability, and lower cost; the payload included an x-ray/gamma-ray spectrometer, near-infrared spectrograph, laser rangefinder, magnetometer, radio science experiment, and multi-spectral imager. Although the spacecraft missed the first rendezvous with asteroid 433 Eros, the renamed NEAR-Shoemaker spacecraft successfully completed the first asteroid landing on 12 February 2001. The NEAR-Shoemaker team gathered significant data from the gamma-ray spectrometer for 12 days and put the spacecraft to sleep on 28 February 2001.

The new Monograph in Aerospace History No. 36 *Low-Cost Innovation in Spaceflight: The Near Earth Asteroid Rendezvous (NEAR) Mission* (SP-2005-4536) by Howard McCurdy contains more information about the origins, methods, challenges, and lessons learned from the historic project. This monograph is available at the History Division at NASA Headquarters (Room C0-72) and online at <http://history.nasa.gov/monograph36.pdf>. To receive a copy by mail, please send a self-addressed 8”x11” flat-rate Priority Mail envelope to the History Division.

CONTACT INFORMATION AND CREDITS

The NASA History Division, under the Office of External Relations, NASA Headquarters, Washington, DC 20546, publishes *News and Notes* quarterly.

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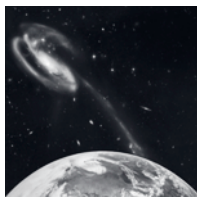
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