

## FROM THE CHIEF HISTORIAN



Readers of this newsletter may notice a subtle change. The NASA History Office is now the NASA History Division, on equal footing with other Divisions in the Office of External Relations. Like all other parts of NASA, the Office of External Relations has undergone a transformation in its structure, reflecting the broader transformation implemented as NASA prepares to return humans to the Moon and then head for Mars. Charts showing the History Division's place in the new structure are found on page 26.

The year 2004 was a busy one for us. The number of book projects continued unabated, including two new contracts for full-length histories of aeronautics at NASA since 1958 (Rob Ferguson) and of NASA's planetary protection program (Michael Meltzer), and an award for a history of life sciences at NASA since 1980 (still pending). The next two volumes of the NASA Historical Data Book are being written (Judy Rumerman), bringing this essential reference source up to date from 1989 to 1998. The *Aeronautics and Space Report of the President* for 2002 and 2003 were completed (see the Web versions back to 1995 at <http://history.nasa.gov/presrep.htm>), and work has begun on the 2004 edition. As noted in past newsletters, many NASA history books were published during the year, and more than a dozen other book projects are in various stages of writing or production. We anticipate issuing many requests for proposals in the coming year, including a broad one covering space science history.

*continued on next page*

## HISTORY'S ROLE IN KNOWLEDGE MANAGEMENT

By Paige Lucas-Stannard

Knowledge management (KM) is a major buzzword for information organizations today. In a culture where information has become the most important capital asset, the ability to hold on to existing knowledge and maximize the effective use of information has become paramount. Although KM is a relatively new and emerging field, the management of information is not. Professionals in a variety of fields have been working to capture, analyze, and disseminate information for decades. Fields ranging from librarianship and business management to information technology, cognitive psychology, and human resources management comprise the new knowledge workforce.<sup>1</sup> Drawing on the unique skills that each field brings to the table, the interdisciplinarity of KM is one of its most powerful tools. A major mistake in KM would be for an organization not to include one of its existing groups of knowledge workers in an emerging KM project. This would lead to duplication of efforts as well as losing the benefit of the varied perspective different fields can bring. Historians and archivists have their own valuable and unique contributions to make to KM that should be examined more closely. First, let us look at KM's components in greater detail.

*continued on next page*

<sup>1</sup> There is much debate on how to coin the new information professional (e.g., knowledge worker, information worker, information scientist, information manager, etc). This is beyond the scope of this discussion. For more information, see Allistair Black, "Information History and Information Professional," in *Library History* 20 (March 2004).

### IN THIS ISSUE:

From the Chief Historian . . . . .	1
History's Role in Knowledge Management . . . . .	1
News from Headquarters and the Centers . . . . .	6
Archival Update . . . . .	13
Other History News . . . . .	14
Publications . . . . .	15
Contracts . . . . .	19
Aerospace History in the News . . . . .	20
Critical Issues in the History of Spaceflight . . . . .	23
Upcoming Meetings/Events . . . . .	24

*From the Chief Historian (continued)*

As these projects proceed, we also have been documenting history in the making. These projects include numerous oral history interviews related to the Hubble Space Telescope Servicing Mission decision, the proceedings of a landmark meeting on “Risk and Exploration,” and encouraging historical work related to the origins and activities of the Exploration Systems Mission Directorate. The “Why We Explore” essay series continues at <http://www.nasa.gov/newvision>.

The archival staff, led by Jane Odom, continues to add to the NASA Historical Reference Collection, a resource whose usefulness is attested by the number of researchers who continually mine it. We have refocused our oral history program, carried out by our colleagues at the Johnson Space Center. Be sure to check out our new Web site at <http://history.nasa.gov/>. A tremendous amount of information resides there, including full text for an increasing number of books. Special thanks goes to Steve Garber, Giny Cheong, Claire Rojstaczer, and Jennifer Troxell for their work on this site.

This new year of 2005, the year of Return to Flight for the Space Shuttle, promises to be no less busy. In March, we convene a workshop on “Critical Issues in the History of Spaceflight” to be held at the Udvar-Hazy Center in conjunction with the Department of Space History at the National Air and Space Museum (see agenda on pages 23–24). In April, those involved in history at NASA’s 10 Centers will gather at JSC for the Annual History Review. In May, we sponsor, with the Dibner Institute, a seminar on “Cosmic Evolution and Astrobiology” at the Marine Biological Lab in Woods Hole, Massachusetts. We are planning a conference on the “Societal Impact of Spaceflight” for 2006, and we solicit your input. Last, but not least, the 50th anniversaries of the Space Age in 2007 and of NASA in 2008 will provide landmark opportunities for historical conferences.

With all of these ongoing activities, I am especially pleased to announce that our position for historian in the History Division has been filled. On 27 December, we welcomed Glen Asner to our staff. Glen will soon have his Ph.D. from Carnegie Mellon University, with a dissertation on aerospace history. More information on Glen is found elsewhere in the newsletter.

With Administrator Sean O’Keefe announcing his resignation on 13 December, it promises to be another year of change for NASA, with more history in the making.

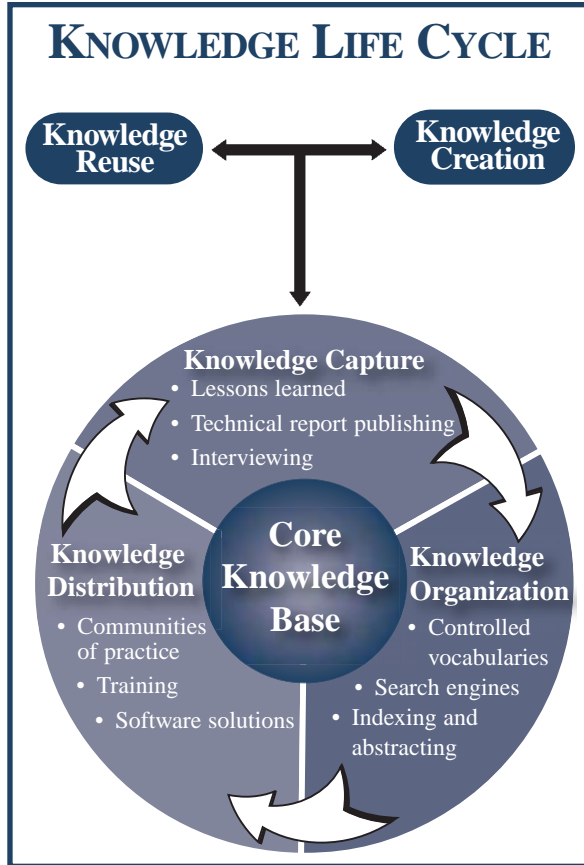
Steve Dick

*History’s Role in Knowledge Management (continued)***FEATURES OF A SUCCESSFUL KM PROJECT**

The goal of KM is to regulate the information life cycle. This cycle begins with knowledge creation and continues with knowledge capture, organization, dissemination, and, finally, reuse to create new knowledge. Each step in the cycle is important, and aggressive management during the whole life cycle is necessary to ensure the integrity of the information. There are a variety of tools and techniques that KM practitioners use to

*History's Role in Knowledge Management (continued)*

accomplish this.<sup>2</sup> For example, practices such as lessons-learned questionnaires and oral interviews seek to capture information at or as close as possible to the time of its creation. Lessons-learned databases and expert-locator software solutions make the captured information available with thorough, appropriate indexing and user-friendly retrieval systems. Dissemination is accomplished through the use of the retrieval systems along with promotion and training to ensure that the information is getting to the right people for maximum utilization. This information is used to increase employee efficiency and efficacy and to generate new knowledge, feeding back into the cycle again.



An important feature of KM is that it is *intentional* and *systematic*. People manage knowledge in their lives every day with calendars, PDAs, office bulletin boards, electronic discussion boards, and other devices to help them remember and share information with coworkers. KM includes in large part the explicit codification of knowledge-related activities through policies and programs.<sup>3</sup> This is beneficial in two main ways. First, it normalizes the information management activities and promotes a consistent application across the organization. Second, and more importantly, it makes information available across projects and between people that may have not had the opportunity to share information previously. This identifies what was previously only project knowledge as *organizational* knowledge and promotes its use across enterprises, decreasing redundancy and increasing productivity.

*continued on next page*

<sup>2</sup> For a detailed description of KM tools and techniques, see T. Kanti Srikantaiah and Michael Koenig, eds., *Knowledge Management for the Information Professional* (Medford, NJ: Information Today, 2000); and Rudy L. Ruggles, ed., *Knowledge Management Tools* (Boston: Butterworth-Heinemann, 1997).

<sup>3</sup> Karl Wiig, "Knowledge Management: An Emerging Discipline Rooted in a Long History," in *Knowledge Horizons: The Present and Promise of Knowledge Management*, ed. Charles Despres and Daniele Chauvel (Boston: Butterworth-Heinemann, 2000).

*History's Role in Knowledge Management (continued)*

KM is sometimes erroneously seen as a purely IT endeavor, and it is true that there are many useful software solutions on the market for KM. However, a comprehensive and effective KM strategy includes a multifaceted approach to managing information assets. Karl Wiig<sup>4</sup> identifies four foci for comprehensive KM: people focus, IT focus, enterprise effectiveness focus, and intellectual asset focus. These concentrations work together to create a KM enterprise that is people-centric, comprehensive, and adaptive. Simply implementing a software tool does not ensure an environment that promotes KM on a person-by-person basis. KM is about capturing and utilizing information and thus requires involvement by the information stakeholders. KM software is most effective in an environment where there is a culture and structure in place to support learning.<sup>5</sup>

**HISTORY'S ROLE**

History and archives are seen by some to consist of a purely academic and nostalgic value. The information life cycle, in this view, is linear with creation and use at one end and archiving at the terminal end. Archivists, however, would disagree, stating as evidence the number of times that archival material is requested and utilized in forming new knowledge. Historians add value to the study of past events with *analysis*. As Steve Garber mentioned in the August 2004 issue of this publication, historians help project managers by making the analysis of past events an explicit part of decision making.<sup>6</sup> History creates a frame of reference for current projects and a baseline for where the future may lead.<sup>7</sup> History is an important part of the entire life cycle of information from the KM perspective. Archives should be seen as a repository of information in the same way a lessons-learned document repository is—a resource for increasing enterprise effectiveness and creating new knowledge.

In addition to the enterprise effectiveness role, history provides KM with the necessary people-centered focus<sup>8</sup> in that it looks at the human stories inside of the technological details. The explicit technical requirements of a project are much more likely to be documented for a project, while the tacit knowledge that workers possess that is required to make the project run smoothly is often lost. This more ephemeral “how we did it” is perhaps one of the most important aspects of a project that future projects could learn from. This, the primary information type that KM seeks to capture, is traditionally collected and described by archivists and historians. History practices, like oral interviewing and analysis of success and failure, are also key tools for KM. An expertly done oral interview can uncover the how and why behind a project's decisions—a valuable tool in identifying lessons that can be applied to future projects.<sup>9</sup>

*continued on next page*


---

<sup>4</sup> Ibid.

<sup>5</sup> R. Othman and N. Hashim, *Organizational Amnesia: The Barrier to Organizational Learning*, available online at [http://is.lse.ac.uk/Support/OKLC\\_2002/pdf\\_files/ID308.pdf](http://is.lse.ac.uk/Support/OKLC_2002/pdf_files/ID308.pdf).

<sup>6</sup> Steve Garber, “Historians and Project Managers Learning from Each Other,” in the NASA History Division's *News and Notes* 21, no. 3 (August 2004).

<sup>7</sup> Ibid.; and R. R. Blake and J. S. Mouton, “Out of the Past: How To Use Your Organization's History To Shape a Better Future,” in *Training and Development Journal* 37, no. 11 (November 1983).

<sup>8</sup> Wiig, “Knowledge Management.”

<sup>9</sup> A. Kransdorff, “Fight Organizational Memory Lapse,” in *Workforce* (September 1997).

History pursuits also offer a step forward in codification of KM practices. Often in organizations, particularly government agencies, historical archiving and preservation are among the primary mandates of the organization. This often means that the practice and process of information capture (sometimes through records management) and dissemination is already part of the organizational structure. This is a powerful tool to burgeoning KM projects that are struggling to establish themselves into the habit of the workforce. The mandate of history programs also increases the authority of the products of a KM program. If a history program has been in existence for many years and employees are aware of it, a KM program can benefit from this recognition.

Of course, history programs also will benefit from becoming part of their local KM initiatives. First and foremost, KM-rich organizations will have developed a better habit of information capture. With this increased attention, a history program that at one time struggled to locate records could find itself happily working with detailed and complete documentation of a project. History programs also will benefit from the exposure that a KM project would bring. The line between information for today's use and information about yesterday's successes and failures will blur, and history can establish itself in the workplace as a producer of products with immediate usefulness. Finally, in today's frequently changing environment, history and KM can create continuity and ensure less attrition of information when the workforce changes.

#### **HISTORY AND KNOWLEDGE MANAGEMENT AT NASA**

Although much of the KM literature focuses on information as a competitive and profit-driven activity, any information-rich environment will benefit from KM. An agency such as NASA with groups of researchers working on diverse types of research at different ends of the country will benefit from increased knowledge sharing. NASA is also a perfect example of an organization that would benefit from the involvement of the History Division in KM initiatives. NASA has historical preservation and information dissemination as a mandate,<sup>10</sup> which gives authority for the capture, organization, and dissemination of information. NASA's various History Divisions bring great expertise in the organization and management of information repositories (archives) and in identifying information of value by separating the "wheat from the chaff."<sup>11</sup> The NASA history programs have had great success with a variety of publications, conferences, oral history projects, and coordination with NASA's program management leadership. NASA's history program is uniquely prepared to offer these skills as part of the KM community.

The NASA Glenn Research Center History Division has begun working with a cross-Center working group to launch a knowledge capture pilot program. The group consists of individuals from IT, the technical library, human resources, research branches, and the History Division. The pilot program will focus on capturing information from near-retirement employees in an effort to maintain the core competencies of the workforce. The focus will be on day-to-day activities and other tacit knowledge that may not be documented elsewhere. The History Division is lending its expertise (from archivists Nora Blackman and Robert Arrighi) to conduct oral interviews with selected personnel. These

*continued on next page*

---

<sup>10</sup> *National Aeronautics and Space Act of 1958*, Public Law 85-568, 72 Stat., 426.

<sup>11</sup> Garber, "Historians and Project Managers."

*History's Role in Knowledge Management (continued)*

interviews will be audio and/or video taped, transcribed, and indexed. A software solution will be used to provide access to this captured information, and the usage of the information will be analyzed. In addition to the actual product of the interviews, this pilot will help outline the various tasks in the KM capture process. Development of guidelines will help future KM projects in identifying areas where knowledge loss is posing the largest problem, soliciting buy-in of participants, formulating questions that will reveal the tacit knowledge that employees are frequently unaware they have, and developing an indexing scheme that will provide access to the information for the end user. With the lessons learned from the pilot, the Center will develop a future strategy for KM in coordination with Agencywide efforts. The History Division has unique skills to offer this process as well as a stake in the outcome.

KM integrates the expertise of many different fields of knowledge workers. Leaving history out of the process would be a great disservice to both the KM project and the history program. By offering historical and archival expertise to a KM project, the success of the project is enhanced, and the benefit to the organization is increased. As Arnold Krandsorff stated, "no company can afford the luxury of rediscovering its own prior knowledge."<sup>12</sup> A successful KM program will increase the robustness of the history program and its ability to offer information that provides context and value to decision-makers today and in the future.

For more information about Glenn's pilot KM capture program, please contact Paige Lucas-Stannard at [paige.c.lucas-stannard@nasa.gov](mailto:paige.c.lucas-stannard@nasa.gov).

## NEWS FROM HEADQUARTERS AND THE CENTERS

---

### Headquarters

Rebecca Anderson is a third-year student at the University of California, Davis. In California, Rebecca competes for the UC Davis varsity women's rowing team and studies English and political science. She recently completed a quarter-long research program in Washington, DC, during the course of which she investigated the phenomenon of inducement prizes in the technological innovation process and interned at the NASA History Division.

Nadine Andreassen continues to plan the annual NASA History Program Review at JSC from 5 to 7 April 2005, among many other duties.

Glen Asner recently accepted the position of Historian in the NASA Headquarters History Division in Washington, DC. Mr. Asner is pursuing a Ph.D. in history at Carnegie Mellon University in Pittsburgh, Pennsylvania. His dissertation, slated for completion in 2005, explores the influence of government policies on the organization of corporate research during the Cold War. Mr. Asner most recently worked as an associate contract historian for

---

<sup>12</sup> Ibid.



the Defense Acquisition History Project, a U.S. Department of Defense-sponsored study of defense acquisitions from World War II to the present. He also has served as a contract historian for the Hagley Museum and Library and the U.S. Department of Energy. Mr. Asner is interested in a wide range of topics in the realm of space history, including the history of the aerospace industry, the relationship between NASA and the military, and the social and cultural implications of spaceflight and space technologies.

Giny Cheong has successfully completed her first semester of her master's degree in history at George Mason University. She looks forward to the publication of *Chertok's Rockets and People, Volume 1 and Shared Voyage: Learning and Unlearning from Remarkable Projects*. She also has worked on Web updates, started answering information requests, and helped coordinate a breakfast honoring the life of Frank Hoban.

Colin Fries finished cataloging the Office of Administration files, which include Office of Chief Scientist, Office of Chief Engineer, and Office of United Nations Programs from 1968 to the present. He has begun scanning *Current News* from 1959.

Steve Garber is back from a leave of absence after his wife Lynne had twins (boy and girl). Mother and babies are healthy and growing fast, and the parents are adapting to a totally new paradigm, as Thomas Kuhn would say! Professionally, Steve is working on a variety of publications. In particular, he is looking forward to the publication of *Shared Voyage*, an innovative book on project management that already has led to fruitful collaboration with NASA's Academy of Program and Project Leadership.

This quarter, John Hargenrader has been scanning various NASA Center phone books and *Current News* files; organizing and adding to the Office of Personnel database files; and handling a variety of information requests. When he can find the time, he has been photocopying old newspaper articles in the Mercury, Gemini, and Apollo files to replace with better copies for future researchers to use.

Rob Jenson has just completed his first semester as a graduate student in the College of Information Studies at the University of Maryland. He has been in the History Division since October working on a practicum, arranging and describing the papers of John L. Sloop. Mr. Sloop was the Assistant Associate Administrator for Aeronautics and Space Administration until 1972. Mr. Sloop served a key role in organizing the NASA Research and Technology Council and the establishment of the Aeronautics and Space Engineering Board of the National Academy of Engineering. Sloop authored many publications about propulsion and the early history of NASA and NACA. His major work, *Liquid Hydrogen as a Propulsion Fuel, 1945–1959*, was published by the NASA History Division in 1978. Recently, Rob successfully completed his 50-hour archival practicum and is volunteering his time generously for another few weeks.

Annette Lin is a third-year student at Cornell University majoring in science and technology studies and minoring in law and society. She has been program coordinator of Cornell's Translator-Interpreter Program and a member of the National Society for Collegiate Scholars, and has written for on-campus publications such as the *Pre-Law Journal*. For the spring 2005 semester, she will be interning for the NASA History Division as part of the Cornell-in-Washington program.

*continued on next page*

*News from Headquarters and the Centers (continued)*

Jane Odom continues to acquire and appraise new material for the Historical Reference Collection. Currently she is evaluating a 3-cubic-foot collection donated by a retiree in the Headquarters Launch Services Office. The activities of the archival standards workgroup are ongoing as well. Jane, Nora Blackman, Leilani Marshall, and Elaine Liston are studying archival practices and procedures Agencywide. Thanks to all who contributed by taking the time to answer the latest round of questions on acquisitions and appraisal. Thus far, the sections on reference and access, and on acquisitions and appraisal have been compiled. A final report will be issued when the study is complete. If a Center historian or archivist wishes to have an advance copy, then he/she should contact Jane. Additionally, Jane continues to provide guidance to Rob Jenson, mentioned above.

Michael Peacock looks forward to the printing of the *Of Ashes and Atoms* DVD that will hopefully broadcast on a major network. He has been working on Dr. Howard McCurdy's latest monograph, *NEAR: Low-Cost Innovation in Spaceflight*, on the Near-Earth Asteroid Rendezvous Shoemaker Mission and Dr. Seamans's *Project Apollo: The Tough Decisions* book/manuscript. Also, he has completed an independent research project on Sputnik and cultural attitudes in the U.S. and USSR during the early space race. He will be returning to the University of Pennsylvania for the spring semester and says it has been a wonderful and unique experience working in the History Division. He gives special thanks to Steve Garber and Steve Dick for all they have done to help him and for being patient overseers during his time in the office.

Elizabeth "Liz" Suckow is working as an intern in the NASA History Division this spring. She is a first-year graduate student currently pursuing a double major in 20th-century American history and public history at American University. She obtained a bachelor's degree in American history at Wisconsin Lutheran College (Milwaukee, Wisconsin). Her interests are the history of the U.S. space and nuclear programs, as well as Cold War history in general.

## Ames Research Center

Jack Boyd presented a historical overview of NASA Ames at the American Institute of Aeronautics and Astronautics (AIAA) Aerospace Sciences annual meeting in Reno on 10 January. Titled "Reinventing the NASA Ames Research Center: 65 Years of Innovations," it highlighted a series of slides prepared by Paul Koledziej, a project manager with NASA Ames Advanced Air Transportation Technologies Office. The paper is available at <http://history.arc.nasa.gov/Man23407.pdf>. Jack also prepared an overview article for the 65th anniversary celebrations at NASA Ames, which is available at [http://www.nasa.gov/centers/ames/news/astrogram/2004\\_astrograms/04astrograms.html](http://www.nasa.gov/centers/ames/news/astrogram/2004_astrograms/04astrograms.html). In addition, he helped the NASA Ames Video Production Group prepare a 24-minute history overview of NASA Ames entitled "On the Shoulders of Giants." It soon will be available as a QuickTime stream at the NASA Ames Web portal.

Michael Adamson, a research associate with the NASA Ames History Division, wrote a biography of Harvard Lomax, a pioneer in computational fluid dynamics, which is being prepared for publication with the IEEE Annals in the History of Computing.



Leilani Marshall continues to build the archival program at NASA Ames. Leilani joined the NASA Ames History Division as the archivist in October 2003. She received her master's degree in library science from Texas Woman's University in May 1998, completed her graduate study in the History Department at San José State University this past fall, and brings extensive experience as an archivist.

For the NASA Ames History Division, Leilani is responsible for the acquisition, processing, and maintenance of the History Division archival and artifact collections. She manages the History Division collection database, provides research services to History Division patrons, supervises the archival staff, and is developing collection policies and processing guidelines for the NASA Ames History Division. Leilani serves with the archival standards workgroup among the NASA Centers and as liaison with the NASA Ames Historic Preservation Office, the NASA Ames records management group, and the National Archives branch in San Bruno. She also supports the lecture and presentation efforts of Jack Boyd, the NASA Ames Senior Advisor for History. Leilani can be reached at [lmarshall@mail.arc.nasa.gov](mailto:lmarshall@mail.arc.nasa.gov) or 650-604-6430.

NACA Reunion XI: The 11th reunion of former NACA employees is scheduled for the weekend of 30 September to 2 October 2005. Victor Peterson, former Deputy Director of NASA Ames, chairs the reunion committee, which has representatives from other former NACA laboratories. "The staffs at each of the laboratories felt they were part of one big family. Cooperation, constructive competition, and mutual respect were evident between laboratories," Peterson wrote in his reunion announcement. "Perhaps no other government organization displayed such an esprit de corps and is remembered so vividly by former employees even after the passage of over 45 years' time." He reports an enthusiastic response to the first mailing about the event and that the committee will be sending out the final program soon. The reunion committee can be reached at 650-604-1032, [nacareunion11@mac.com](mailto:nacareunion11@mac.com), or by sending mail to Mail Stop 207-1, Moffett Field, CA 94035.

## Dryden Flight Research Center

Chief Historian Michael H. Gorn, in addition to serving as the Acting Chief of Code T (which includes History, Photo, Graphics, Video, and Technical Publications), has recently been asked to serve as the SHOT 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 and expanding a second edition of *Flights of Discovery*; the publication of this work is to coincide with the Center's 60th anniversary in 2006. Also, he has taken on the task of 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. The publication *Unconventional, Contrary, and Ugly: The Story of the Lunar Landing Research Vehicle* should be going to press shortly, and Lane Wallace's *Nose Up: High Angle-of-Attack and Thrust Vectoring Research at NASA Dryden, 1979-2001* is in page layout. He has edited both manuscripts.

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

*continued on next page*

*News from Headquarters and the Centers (continued)*

give the reader an overview of the Center's accomplishments during nearly six decades of aeronautical and aerospace research. He also has been working on a monograph, in conjunction with Dr. Greg Bendrick, tentatively titled *Human Factors in Aircraft Mishaps*, which explores the role of human factors leading to aircraft accidents. In addition, Peter has been gathering historical material on NASA's NB-52, tail no. 008. The 10th B-52 off the production line, it is the oldest B-52 still flying and the youngest such aircraft in terms of flight hours. Pete and Mike were recently interviewed by a film crew for the Discovery Channel on a program about the history of Edwards AFB.

Curtis Peebles is deep into a yearlong assignment to document Dryden's X-43 hypersonic flight research project. The documentation phase will include the collection of written and pictorial materials, as well as extensive interviews. Curtis has been attending briefings and technical meetings for this project, and recently sat in the control room for both flight rehearsals and the third and final flight of the project. That flight came off successfully on 16 November and was carried live on NASA TV. Curtis will write a formal history of the project based on his work.

He also is completing the second volume 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

Our office is filling up with boxes! Glenn History Division has seen the fruition of many of its projects just in time for the holidays. The printing of the *Of Ashes and Atoms* DVDs along with the pictorial history book by Dr. Mark Bowles and Bob Arrighi, NASA's *Nuclear Frontier: The Plum Brook Reactor Facility*, signals the culmination of four years of work. The Rocket Engine Test Facility (RETF), which was demolished in 2003 as part of the City of Cleveland's airport expansion project, has been memorialized in a documentary DVD entitled *Fueling Space Exploration: The History of NASA's Rocket Engine Test Facility* and in the historical text by Dr. Virginia Dawson, *Ideas Into Hardware: A History of the Rocket Engine Test Facility at the NASA Glenn Research Center*. In addition, a traveling museum display of RETF artifacts will begin touring the country early next year. We have been busily stuffing and addressing envelopes to make sure that retirees of the reactor and RETF receive copies of these tributes to their life's work. The next wave of publications begins in 2005 with *The Symposium of Flight* collection of papers and DVD presentation of the symposium, and the scholarly book on the reactor entitled, *Reactor in the Garden: NASA's Nuclear Frontier at Plum Brook Station*. Our hope is that the researchers we honor with these histories are pleased with their early Christmas gifts. It has been a gift for us to see the excitement on their faces when they see their legacy in print, and that makes it worth all the boxes.

While the team members of the NASA Glenn History Office slept snug in their beds after a white Cleveland Christmas, another winter surprise awaited them in the Glenn archives. Unfortunately, our surprise was equivalent to a lump of coal in a stocking. In the early morning of 26 December, an HVAC unit near the exit of the building had frozen due to an improperly closed door. The water pipe in the unit froze and burst, and water began pouring down the stairs to the basement, where the archives are located. Fortunately, only minimal damage occurred in Glenn's History Division. Center history officer Kevin Coleman and

archivist Nora Blackman were the two staff members who reported to the scene. Over 20,000 gallons of water were pumped from the basement by clean-up crews. Coleman stated that it was probably the elevator shaft that saved the office. A large amount of water collected in the 8-foot pit below the elevator. Still, 2 to 3 inches of standing water was found in the archives. Boxed materials sitting on the floor were damaged, but almost all of these materials were duplicates. Blackman did identify several important items that had been damaged. These were three volumes of flight logs from the hangar, dating from the 1940s to 1960s. The volumes were wrapped up and kept in Coleman's freezer until they could be taken to the conservator. The flood was an unfortunate and preventable accident, but we feel lucky that no one was injured and very little material was damaged. The Center has used this incident to highlight the problems of housing Glenn's history in such a vulnerable location.

## Goddard Space Flight Center

Begun last April at the NASA History Program Review, the NASA Unilib librarians are continuing their dialog on ways and means of partnering in the areas of metadata projects. The library collaborated with the Goddard Knowledge Management Office to select, organize, and sustain documentation of the Hitchhiker Program, a division of the Shuttle Small Payload Project. Products of this effort are metadata, Web sites, videos, and finally a CD-ROM to demonstrate the preservation process. In an effort to preserve Goddard's project history, the library's new digital archive system is in operation and featured in *D-Lib Magazine* on the library's Web site. Click the red "New" button to access this. Jessica David is standardizing, enhancing, and increasing the Goddard Projects Directory listed under the Quick Picks sidebar on the library's home page at <http://library.gsfc.nasa.gov/>. Also, Anne Burke has coordinated with the Headquarters History Division in scanning Goddard's historical phonebooks and Goddard news archives. She is making these items text searchable for retrieving biographical and organizational information. Finally, Steve Dick delivered a talk about his new book, *The Living Universe: NASA and the Development of Astrobiology*, at the annual Goddard library open house in October.

## Jet Propulsion Laboratory

Erik Conway recently arranged to begin a long-term project to document the evolution of Project Prometheus with the Program Manager John Casani. This will be done through annual oral histories with around a half dozen senior project officials and gathering relevant documents from project staff and the project's document library. He hopes to make similar arrangements for some of the upcoming Mars missions and to assign Michael Hooks the responsibility for conducting the interviews. This will allow the history staff to document a few of the Jet Propulsion Laboratory's projects from their very earliest phases.

## Johnson Space Center

The following changes are underway at the NASA Johnson Space Center's (JSC) History Division:

William A. Larsen, longtime member of the JSC community, left the Center to enjoy full-time work in the field of academia. For the last few years, he served in the role of historian, but for decades greatly impacted the direction of the JSC history program.

*continued on next page*

*News from Headquarters and the Centers (continued)*

Mark Scroggins, the NASA JSC archivist, will continue to be responsible for the overall history activities for the Center in Houston, with the day-to-day responsibilities of the History Division moving to Rebecca Wright.

Rebecca Wright has coordinated the oral history project for JSC for the past seven years and will assume the role of history coordinator. Her duties will include the overall management and budget of the History Division activities, such as the oral history project, history Web sites, community outreach, publication efforts, research staff, and resources.

Jennifer Ross-Nazzal, Ph.D., will serve JSC as its historian. Jennifer, a graduate from Washington State University, has been a historian for the oral history project for the past four years. She will be responsible for answering reference questions, handling requests from internal and external customers, directing the student research-historians supporting the History Division, contributing to future publication efforts from JSC, and continuing with the oral history project.

Also in the History Division is Sandra Johnson, who began working with the oral history project in 1998. Her duties continue as an oral historian and as the project's production manager to ensure the History Division's products meet quality standards for preservation and release.

Those interested in contacting the JSC History Division should call Rebecca Wright at 281-990-0007, Dr. Jennifer Ross-Nazzal at 281-486-3942, Sandra Johnson at 281-486-0678, or Mark Scroggins at 281-483-4975.

## Kennedy Space Center

NASA Chief Historian Steve Dick presented a lecture on "Why We Explore" to informal educators at Kennedy Space Center on 8 November 2004. The educators, including science center directors, planetarium directors, nature center directors, and theme park educators, were attending an Office of Education-sponsored NASA Explorer Institute. This institute, a Workshop for Informal Education Specialists (WIES), was designed to enhance interaction between NASA's space operations activity and informal education institutions. Workshop sessions were held on past spaceflight missions, current Return to Flight activities, and activities related to the Vision for Space Exploration.

## Stennis Space Center

NASA Stennis Space Center (SSC) employees (from left as pictured on the following page) Tom Stanley, Gary Benton, Gary Taylor, Ronnie Rigney, Ryan Roberts, David Geiger, and Gerry Meeks participated in a roundtable discussion on 14 December. Conducted by Dr. Charles Bolton, Chairman of the University of Southern Mississippi History Department, the discussion focused on SSC's role in NASA's Return to Flight effort. SSC's History Division periodically hosts roundtable discussions to record milestone events at the Center.



## ARCHIVAL UPDATE

---

### Johnson Space Center History Collection Lands in Clear Lake

By Shelly Kelly, University Archivist at the University of Houston—Clear Lake

The last issue of *News & Notes* mentioned that the JSC History Collection continued to reside at the Rice University Woodson Research Center. However, the Memorandum of Understanding (MOU) with Rice expired in 2000, and the collections on Apollo, Skylab, ASTP, and Shuttle returned to JSC.

In February 2001, the JSC, National Archives and Records Administration (NARA), and University of Houston—Clear Lake (UHCL) signed an MOU to house the 2,800+ linear feet of historical documents in the UHCL's archives. In addition, UHCL also received the Station, Center, General History, and Oral History Project Series.

The JSC history collection consists of approximately 1.5 million documents that were collected as a result of the NASA JSC History Division. The History Division, originally chartered to write and publish chronologies and histories of each human spaceflight program, amassed a large collection of copies for their "historian source files." These documents consisted of memoranda, contractor reports, press kits, transcripts, and correspondence.

The History Division also organized and maintained a general reference series—files consisting of the JSC publication *Roundup*, astronaut and administrative biography sheets, management instructions, PAO press releases, and papers written by JSC employees.

Another major component of the JSC history collection is the Oral History Series, which consists of over 1,000 interviews and other audio and/or transcribed data. The bulk of this series consists of interviews conducted under the Oral History Project, which began in 1996 as a dedicated effort to capture history from the managers, engineers, technicians, doctors, astronauts, and other employees of NASA and aerospace contractors who served key roles in all of the human spaceflight programs.

*continued on next page*



*Archival Update (continued)*

The University of Houston—Clear Lake, an upper level and graduate university, is located on 487 wooded acres adjacent to JSC. Classes began in September 1974 with 1,032 students and grew to over 7,770 students in 2004.

The Neumann Library encompasses a central portion of the upper two floors of the three-story Bayou Building. The collection consists of more than 375,000 volumes, 3,500 journals, numerous electronic databases, and federal and state document depositories.

The JSC history collection at UHCL assists researchers, scholars, writers, filmmakers, and others who chronicle and disseminate the achievements and historical legacy of NASA. The JSC history collection is used in person by approximately 100 persons per year, with an additional 100+ requests coming in via e-mail, telephone, and mail. Users include graduate students, authors, scholars, hobbyists, and current JSC employees. Researchers come from many places in the U.S. and all corners of the globe, including Canada, Greece, Japan, Australia, New Zealand, Germany, Austria, and Great Britain.

Shelly Kelly may be contacted at 281-283-3936 or [kellysh@cl.uh.edu](mailto:kellysh@cl.uh.edu).

## OTHER HISTORY NEWS

---

Mark Bowles won the American Institute of Aeronautics and Astronautics 2005 History Manuscript Award for *The Reactor in the Garden: NASA's Nuclear Frontier at Plum Brook Station*. The award is presented for the best historical manuscript dealing with the science, technology, and/or impact of aeronautics and astronautics on society. Stephen Garber of the NASA Headquarters History Division nominated him for the award.

### National Air and Space Museum

On 11 December, the National Air and Space Museum (NASM) celebrated the first anniversary of its Steven F. Udvar-Hazy Center near Dulles Airport. The theme for the daylong open house was “We’ve Added Space!” to recognize the completion of the McDonnell Space Hangar in 2004. The centerpiece of the hangar is the first Space Shuttle, *Enterprise*, surrounded by 135 rockets, missiles, engines, satellites, and spacesuits, as well as hundreds of other small artifacts in display cases. Astronaut Fred Haise spoke throughout the day about his experiences on the *Enterprise* test flights and the Apollo 13 mission. Curators and specialists engaged in lively discussions with the public about artifacts, archives, and restoration projects, giving a behind-the-scenes look at life in the museum. More than 5,000 people attended, and media coverage was quite good. Reaching this major milestone has been the focus of the museum’s Space History Division for the past five years. Also, NASM Curator Dr. Valerie Neal’s “Space Policy and the Size of the Space Shuttle Fleet” appeared in the 20th volume of *Space Policy* (August 2004), pages 157–169.

This fall, Michael Neufeld published “Peenemünde, die Rakete and der NS-Staat” and “Das Erbe von Peenemünde in den Vereinigten Staaten” in *Peenemünde: Mythos und Geschichte der Rakete 1936–1989* (Berlin, 2004), pages 35–42 and 79–86; “Die Peenemünder Raketeningenieure und die Entwicklung ballistischer Raketen in den USA” in *Raketenrüstung und internationale Sicherheit von 1942 bis heute* (Wiesbaden, 2004),



pages 29–38; and “Overcast, Paperclip, Osoaviakhim: Looting and the Transfer of German Military Technology” in *The United States and Germany in the Era of the Cold War, 1945–2000*, vol. 2 (Cambridge, 2004), pages 197–203.

In November, Dr. Margaret A. Weitekamp’s book *Right Stuff, Wrong Sex: America’s First Women in Space Program* was published in the Gender Relations in the American Experience series put out by the Johns Hopkins University Press.

The book *100 Years Of Flight—A Chronicle of Aerospace History, 1903–2003*, coauthored by F. Robert van der Linden, of the Aeronautics Division of the NASM, and Frank H. Winter, of the Space History Division of the NASM, was published this past December by the AIAA (second printing and updated version).

## Embry-Riddle Aeronautical University Archives Online

The Embry-Riddle Aeronautical University Heritage Project and Archives announced their new online collections database, Archives Online. The catalog currently contains over 1,200 digital images with descriptive records and will expand to all university archival holdings. For more information, please visit <http://www.erau.edu/er/heritage/index.html>.

## Society for the History of Technology Fellowships

The Society for the History of Technology invites applications for the Brooke Hindle Postdoctoral Fellowship and the Melvin Kranzberg Dissertation Fellowship. The Hindle Fellowship for 2005–2006 grants \$10,000 for research and writing in the history of technology. Applications, including a summary of the dissertation, plan of work, and two recommendations, are due by 15 April 2005. For more information, please visit <http://shot.jhu.edu/Awards/hindle.htm>.

The Kranzberg Fellowship awards \$2,000 to a doctoral student for the research and writing of his/her dissertation. Applications, including a curriculum vitae, summary of the proposed dissertation, description on how the applicant intends to use the funds, and letter of recommendation, are due by 15 April 2005. For more information, please visit <http://shot.jhu.edu/Awards/kranz.htm>.

## PUBLICATIONS

---

### New NASA Publications

*Centennial of Flight Web Site* DVD-ROM. This DVD-ROM is a static version of the large, informative Web site (<http://www.centennialofflight.gov>) that was created for the 17 December 2003 anniversary of the Wright brothers’ first flight by the national Centennial of Flight Commission. The DVD-ROM includes photos, videos, essays, and other informative features that celebrate this monumental event.

*Taming Liquid Hydrogen* is a CD-ROM (NASA SP-2004-4606) about the Centaur upper stage rocket. It is a companion to the book of the same title by Virginia Dawson and Mark Bowles (NASA SP-2004-4230). The CD-ROM, produced by Kristin Jansen and Mark

*continued on next page*

*Publications (continued)*

Bowles, includes audio of oral history interviews that Bowles and Dawson conducted for their book, as well as interesting videos, still images, and primary source documents.

*Aeronautics and Space Report of the President: Fiscal Year 2002 Activities* and *Aeronautics and Space Report of the President: Fiscal Year 2003 Activities*. Mandated by law, the *President Report* summarizes the government's aerospace activities each year and contains information on 14 federal departments and agencies. It also contains an executive summary organized by agency, narrative sections organized by subject, as well as extensive appendices containing useful historical data on spacecraft launches, budget figures, key policy documents from the fiscal year, and a glossary.

## Forthcoming NASA Publications

*Rockets and People, Volume 1* (NASA SP-2005-4110). This book is a translation of the memoirs of Russian space pioneer Boris Chertok. This book should be published by early 2005.

*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. This manuscript should be published in early 2005.

*Low-Cost Innovation in Spaceflight: The Near-Earth Asteroid Rendezvous (NEAR) Shoemaker Mission*, by Howard E. McCurdy. This well-written study examines the managerial history of the successful NEAR mission. The monograph should be published in late February.

*Of Ashes and Atoms* is a documentary film about NASA Glenn Research Center's Plum Brook Reactor Facility. Produced, directed, and written by Jim Polaczynski, with cowriter Robert Arrighi, this film features extensive interviews with the people who worked at this unique nuclear research reactor in the 1960s. The reactor facility was abruptly closed in 1973 and is now being carefully decommissioned to comply with all relevant environmental guidelines. This documentary film, a first for the NASA History Series, will appear in DVD format as NASA SP-2005-4605. The film should be produced by late March.

*Fueling Space Exploration: A History of NASA's Rocket Engine Test Facility (RETF)* is another documentary film scheduled to appear in the NASA History Series as NASA SP-2005-4607. The RETF was another unique facility that was part of NASA Glenn Research Center; work stopped there in 1995, and it was demolished in 2003. Built in 1957 and declared a National Historical Landmark in 1984, RETF employees performed significant research on the Centaur upper stage booster, the Apollo-Saturn rocket, and the Space Shuttle. Produced by Tracy Murnan, this video also will be issued in DVD format. The DVD should be produced by late March.

*Project Apollo: The Tough Decisions*, by Dr. Robert C. Seamans, Jr. This work expands upon the NASA chapter of Seamans's autobiography, *Aiming at Targets* (NASA SP-4106),

and looks at the management challenges that faced key NASA officials such as Seamans. This will be Monograph in Aerospace History number 37; it should be published by April.

*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, the X-31, and the F-15 Advanced Controls Technology for Integrated Vehicles. The monograph should be out in the spring of 2005.

*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 June 2005.

*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 from its inception through its service as a training tool at the Manned Spaceflight Center (now JSC). The well-illustrated monograph should be published in the summer of 2005.

## New Non-NASA Publications

*Virtual LM*, by Scott Sullivan. This book with a bonus CD-ROM from Apogee Books illustrates the details in the design and production of the Apollo Lunar Module. For more information, please visit <http://www.cgpublishing.com/Books/VirtualLM.html>.

*Apollo 12 Vol. 2: The NASA Mission Reports*, by Robert Godwin. This book from Apogee Books captures the details of the Apollo 12 mission from official NASA reports and video. For more information, please visit <http://www.cgpublishing.com/Books/Apollo12b.html>.

*World X-Planes*, a new quarterly magazine from HPM Publications. The magazine will begin publication in late January/early February and aims to preserve the history behind X-planes and test pilots. The first issue includes articles on the Leduc's Ramjets, the Bell X-2 46-675, Dassault Balzac V, Joe Walker, and more. For ordering information, please write to [hpm.publications@sympatico.ca](mailto:hpm.publications@sympatico.ca).

## The New and Improved History Division Web Site

The recently redesigned History Division Web site at <http://history.nasa.gov> presents a fresh new look and updated content. The Web site uses stunning Flash graphics and easily navigable menus. The Common Topics link displays information about popular areas such as the history of NASA, the Apollo Program, the Space Shuttles, the International Space Station, robotic missions, and astronauts. The Topical Index allows easy access by subject or alphabet, and the Search function finds pages instantly from keywords. The result is an extremely user-friendly and informative Web site.

Publications are one of the numerous highlights at the NASA History Division. The comprehensive listing online at <http://history.nasa.gov/series95.html> includes all of our history series publications with ordering information, and many are available online as

*continued on next page*

*Publications (continued)*

PDF documents. Even past copies of *News and Notes* are found online at <http://history.nasa.gov/histnews.htm>!

Another popular area is Photo-Video Information, with links to video clips, photo databases, and photo galleries. For example, the Photo Resources List provides over 20 links to thousands of amazing pictures at [http://history.nasa.gov/photo\\_links.html](http://history.nasa.gov/photo_links.html).

Other pages celebrate the feat of human spaceflight and mark anniversaries of historical NASA events. Find chronologies of the first 100 spaceflights at <http://www.hq.nasa.gov/office/pao/History/Timeline/100flt.html> or visit the 35th Anniversary of Apollo 11 Web site at <http://www.hq.nasa.gov/office/pao/History/anniv.htm>.

Visit the Web sites for the Center history offices and find all the links at <http://history.nasa.gov/centers.html>. The Web site even includes an educational section for kids to learn and explore at <http://history.nasa.gov/kids.html>.

In addition, the History Division manages the Web sites for the *Apollo Lunar Surface Journals* at <http://www.history.nasa.gov/alsj/> and Centennial of Flight Web site at <http://www.centennialofflight.gov>.

Researchers, educators, kids, and the general public will discover helpful resources, easier access, and high-quality historical information at the new History Division Web site. Special thanks to Steve Garber, Giny Cheong, Todd Messer, Michelle Cheston, Claire Rojstaczer, and Jennifer Troxell for their help in completing this site. Please e-mail [histinfo@hq.nasa.gov](mailto:histinfo@hq.nasa.gov) with any questions, comments, or requested updates.

## Other New NASA Web Sites

*NASA's Nuclear Frontier: The Plum Brook Reactor Facility*, by Mark Bowles (NASA SP-4533, 2004). This work is now available on the Web at <http://history.nasa.gov/SP-4533/sp4533.htm>. The short, heavily illustrated monograph is about the unique Glenn Research Center facility.

*Aeronautics and Space Report of the President: Fiscal Year 2002 Activities* and *Aeronautics and Space Report of the President: Fiscal Year 2003 Activities*. The FY 2002 and 2003 annual *President's Reports* also are available on the Web at <http://history.nasa.gov/presrep.htm>.

## New Non-NASA Web Sites

The *Space Review* is a new online publication devoted to indepth articles, commentary, and reviews regarding all aspects of space exploration: science, technology, policy, business, and more. For more information, please visit <http://www.thespacereview.com/article/262/1>.

## Call for Papers

The American Astronautical Society's (AAS) bimonthly *Space Times* magazine welcomes feature article submissions on virtually any topic involving space science, technology, exploration, law, or policy. The magazine also encourages reviews of recently published space-related books. For more information or to submit an abstract, please contact the editor, Amy Kaminski, at [amypkaminski@yahoo.com](mailto:amypkaminski@yahoo.com). Previous issues are available on the AAS Web site at <http://www.astronautical.org>.

The Association Villard de Honnecourt for the Interdisciplinary Study of Science, Technology, and Art seeks short contributions on the history of science, technology, or medicine for the annual publication of the *AVISTA Forum Journal (AFJ)*. The *AFJ* focuses on medieval technology and science and technology, including the history of architecture, art history, archaeology, numismatics, medicine, and other material culture from a technical or scientific point of view. For more information, please visit <http://www.avista.org/PUBS/afj.html> or e-mail the editor, Dr. Anne van Arsdall, at [afj@avista.org](mailto:afj@avista.org).

## CONTRACTS

---

The first upcoming contract is to revise, augment, and update the NASA contractor report *Keeping Track: A History of the GSFC Tracking and Data Acquisition Networks: 1957–1991*, edited by Kathleen Morgan and Frank Mintz. The final product should be a scholarly manuscript on the history of NASA's Spaceflight Tracking and Data Network (STDN). The NASA History Division will administer this project jointly with the Space Communications Office within the Space Operations Mission Directorate.

Second, we expect to advertise a contract for a highly experienced project editor and translator to produce for publication selected highlights from the diaries of Vasiliy Mishin and Konstantin Feokstikov. These handwritten diaries of two Soviet space pioneers are in Russian and have not been published in English. Copies of the Mishin diaries, consisting of several thousand pages, and the Feokstikov diaries, consisting of several hundred pages, are available at the NASA History Division. The contractor should select and translate the most important portions of the diaries, adding editorial context for the diarists' often-cryptic references. The NASA History Division will administer this project.

Finally, the Office of Space Science and the NASA History Division will soon solicit proposals on a wide range of history topics relating to NASA space science. Individuals must be affiliated with a U.S. institution, such as a university, nonprofit organization, commercial company, or government organization. The contractor may submit bids for books, "real-time" documentation, or other historical products. This space science request for proposals was listed in a previous newsletter (February 2004, volume 21, number 1), but is still forthcoming.

*continued on next page*

## AEROSPACE HISTORY IN THE NEWS

---

### Original Mercury 7 Astronaut Gordon Cooper Dies



Gordon Cooper

Leroy Gordon Cooper, Jr., died on 4 October 2004 at his home in Ventura, California. In May 1963, Cooper's flight on Mercury-Atlas 9 in Faith 7 broke records for the longest American human spaceflight time and exceeded the design capacity of the capsule. He was the first astronaut to sleep in space. In August 1965, Cooper flew with Charles "Pete" Conrad, Jr., on Gemini 5 and spent nearly eight days in space. This mission paved the way for Apollo by proving that astronauts could survive the time to the Moon and back.

Cooper was born on 6 March 1927 in Shawnee, Oklahoma. He served in the Marine Corps from 1945 to 1946 and received a commission from the U.S. Army after three years at the University of Hawaii. Cooper transferred to the Air Force in 1949 and flew as a fighter pilot in Germany from 1950 to 1954. Colonel Cooper was selected as a Mercury astronaut in April 1959. He also served as a backup command pilot for both Gemini 12 in November 1965 and Apollo 11 in May 1969. He retired from NASA and the Air Force on 31 July 1970.

### Ansari X Prize Won

On Monday, 4 October 2004, *SpaceShipOne* made the second of two suborbital flights in two weeks, claiming the elusive Ansari X Prize (formerly the X Prize) and earning its team a cool \$10-million purse. The success of this team is rumored to be the herald of a new era of commercial aeronautics. The trip claimed media attention, inspired public imagination, and fulfilled the hopes of X Prize founders in marking a new era of commercial spaceflight. *SpaceShipOne* was solely funded by Paul G. Allen, designed by Burt Rutan, and built by his company Scaled Composites. On 27 September 2004, the vehicle achieved the first privately piloted spaceflight in history.

The Ansari X Prize originally required that a team privately build, launch, and finance a vehicle capable of carrying three passengers to 100 kilometers (approximately 62.5 miles) and safely returning to Earth. A recent modification in the rules for the prize allowed test flights to be made with a single pilot and added ballast to compensate for the weight of hypothetical passengers. In order to claim the prize, the same vehicle had to repeat this trip twice within two weeks.

The X Prize was created in 1996 in the spirit of a long history of aviation prizes, most notably the Orteig Prize. Raymond Orteig, a wealthy hotel owner, offered \$25,000 to the first person to fly solo nonstop from New York to Paris. The feat, achieved by Charles Lindbergh on 20 May 1927, spurred tremendous growth in the aviation industry. It is in this spirit that X Prize founders offered their \$10-million prize. Backed by a board of trustees (including Anousheh Ansari), The New Spirit of St. Louis Organization, and several well-funded supporters, the group hopes to stimulate "the creation of a new generation of launch vehicles designed to carry passengers into space," in theory stimulating innovation, commercialism, and space tourism.



## Legendary Spacecraft Designer Dr. Maxime A. Faget Dies



Dr. Maxime A. Faget

Dr. Maxime A. Faget died on 10 October 2004. He designed the original spacecraft for Project Mercury and contributed to the design of virtually every human U.S. spacecraft from Mercury to the Space Shuttle. Faget also led the initial study for the possibility of flying to the Moon and worked on the feasibility study for the Space Shuttle.

Faget was born on 26 August 1921 in British Honduras. He received a bachelor of science degree in mechanical engineering from Louisiana State University and served in the Navy as an officer for three years during World War II. In 1946, Faget began his career as a research scientist at Langley Research Center and was promoted as Head of the Performance Aerodynamics Branch. In 1958, he joined the nucleus of the Space Task Group, the forerunner of the Manned Spacecraft Center, to carry out Project Mercury. He became Assistant Director and then Director for Engineering and Development. In addition, Faget held joint patents on the Aerial Capsule Emergency Separation Device (escape tower), the Survival Couch, the Mercury Capsule, and a Mach Number Indicator. He retired from NASA after the second Shuttle mission (STS-2) in 1981.

## NASA X-43A Scramjet Breaks Speed Record

After the launch of the Pegasus booster rocket from the B-52B launch aircraft at 40,000 feet, NASA's X-43A research vehicle flew at approximately Mach 10, nearly 7,000 miles per hour, and at an altitude of approximately 110,000 feet on 16 November 2004. Langley Research Center and Dryden Flight Research Center conduct the Hyper-X Program under the management of the Aeronautics Research Mission Directorate. The program explores alternatives to rocket power for space access vehicles using supersonic combustion ramjets (scramjets). Scramjets can fly at supersonic speeds without heavy oxygen tanks because the engine compresses air passing through to ignite fuel.



## NASA Space Pioneer John Young Retires

John Young retired after a 43-year career with NASA on 7 December 2004. He started as a Navy test pilot and was selected to join the "New Nine," NASA's second astronaut class. Young joined Gus Grissom on Gemini 3 in March 1965 and continued as commander of Gemini 10 in July 1966. He flew to the Moon in May 1969 on Apollo 10 and returned as commander of Apollo 16 in April 1972. He was the commander of the first flight of the Space Shuttle *Columbia* on STS-1 in April 1981 and the first Spacelab mission on STS-9. Young also served as Chief of the Space Shuttle Branch of the Astronaut



John Young

*continued on next page*

*Aerospace History in the News (continued)*

Office at JSC, Special Assistant to the JSC Director, and Associate Director (technical) of the Center in February 1996. During his career, he received numerous honorary degrees and awards, including three NASA Distinguished Service Medals and the NASA Outstanding Leadership Medal. Young spent a total of 835 hours in space and remains the only astronaut to go into space through the Gemini, Apollo, and Space Shuttle programs.

## Administrator Sean O’Keefe Resigns



Sean O’Keefe

After three years at NASA, Administrator Sean O’Keefe resigned on 13 December 2004. He successfully brought financial credibility to the Agency, eliminated the \$5-billion budget shortfall of the International Space Station Program, introduced innovative reforms, led federal agencies in the implementation of the President’s Management Agenda, and was a key architect of the new Vision for Space Exploration. Administrator O’Keefe will become the chancellor of Louisiana State University’s Baton Rouge campus, but will stay aboard at NASA until February.

## NASA Official Glen Wilson Dies

Glen Wilson died on 8 January 2005 in Fort Worth, Texas. In 1955, he joined the staff of Senator Lyndon Johnson and worked on the Senate Special Committee on Space and Astronautics. Through the committee, Wilson played a part in the creation of the National Aeronautics and Space Act of 1958. In 1978, he started working for NASA to develop the Shuttle Student Involvement Program. In 1982, NASA awarded him the Exceptional Service Medal. After his retirement from NASA, Wilson became Executive Director of the National Space Society and remained active on the board until his death. Wilson received a bachelor’s degree in aeronautical engineering, a master’s in aeronautical engineering, and a Ph.D. in psychology. He began his career as an aviation electronics technician in the Navy during World War II and also worked for Lockheed Aircraft Company.

## Deep Impact Launch

On 12 January 2005, the Deep Impact spacecraft was launched aboard a Boeing Delta II rocket from Cape Canaveral Air Force Station, Florida. Deep Impact will travel 268 million miles and rendezvous with Comet Tempel 1. Early data from Deep Impact Project Management at JPL indicates that the solar panels work and the spacecraft remains in safe mode until further command from Earth. Deep Impact consists of two parts: a “fly-by” spacecraft and a smaller “impactor.” On 4 July 2005, the impactor, an 820-pound copper “bullet,” will crash into the comet’s surface at 23,000 miles per hour and create a massive crater. The “fly-by” spacecraft will broadcast pictures and measure data from the impact. Scientists hope to discover the makeup of the comet and study the evolution of the solar system.



Deep Impact Spacecraft Launch

# CRITICAL ISSUES IN THE HISTORY OF SPACEFLIGHT

---

Sponsored by the NASA History Division and National Air and Space Museum  
(NASM) Department of Space History

**15–16 March 2005**

Udvar-Hazy Center  
Washington, DC, Metro Area

## Day 1

### 9–11:30 SESSION I. MOTIVATIONS FOR SPACEFLIGHT

1. Seeking Newer Worlds: A Historical Context for Exploration—*Stephen Pyne* (ASU)
2. Compelling Rationales for Spaceflight? History and the Search for Relevance—*Roger Launius* (NASM)
3. The History and Historiography of National Security Space—*Stephen Johnson* (UND)

**11:30–12:30 LUNCH**

### 12:30–3:00 SESSION II. HUMAN AND ROBOTIC EXPLORATION

1. An Analysis of the Robotic vs. Human Issue—*Howard McCurdy* (AU)
2. Human-Machine Issues in the Soviet Manned Space Program—*Slava Gerovitch* and *David Mindell* (MIT)
3. Human and Machine in the History of Spaceflight—*David Mindell* (MIT)

**3:00–3:15 BREAK**

### 3:15–5:45 SESSION III. NASA AND EXTERNAL RELATIONS

1. NASA and the Aerospace Industry: Critical Issues and Research Prospects—*Philip Scranton* (Rutgers)
2. NASA and DOD Relations—*Peter Hays* (SAIC)
3. NASA and Its International Relations—*John Krige* (Georgia Tech)

**7:30 DINNER (WITH GUEST SPEAKER JAMES HANSEN, AUBURN)**

## Day 2

### 9–11:30 SESSION IV. ACCESS TO SPACE

1. The Proper Role of the U.S. Government—*W. D. Kay* (Northeastern University)
2. Space Shuttle, CAIB, and the Current Dilemma—*John Logsdon* (GWU)
3. Reusable Launch Vehicles (RLVs) or Expendable Launch Vehicles (ELVs)?—*Andrew Butrica* (Independent Scholar)

*continued on next page*

*Critical Issues (continued)*

**11:30–12:30 LUNCH**

**12:30–3:00 SESSION V. NASA CULTURES**

1. Changing NASA: The Challenges of Organizational System Failures—*Diane Vaughan* (Boston College)
2. Institutional Issues for Continued Space Exploration: High-Reliability Systems Across Many Operational Generations—*Todd LaPorte* (Berkeley)
3. Engineering Cultures at NASA—*Alexander Brown* (MIT)

**3:00–3:15 BREAK**

**3:15–5:45 SESSION VI. SPACE HISTORY: STATE OF THE ART**

1. Opportunities for Historical Research—*Asif Siddiqi* (American Academy of Arts and Sciences)
2. Questions Reconsidered: Space History and History Subdisciplines—*Margaret Weitekamp* (NASM)
3. Space History Through Material Culture—*David DeVorkin* (NASM)

Space is limited; so please contact Nadine Andreassen at [nadine.j.andreassen@nasa.gov](mailto:nadine.j.andreassen@nasa.gov) or Steve Dick at [steven.j.dick@nasa.gov](mailto:steven.j.dick@nasa.gov) if you are interested in attending the conference.

## UPCOMING MEETINGS/EVENTS

---

From 16 to 18 February 2005, the Academy of Program and Project Leadership will sponsor the biannual Masters Forum of NASA Project Managers in San Francisco, California. For more information, please visit <http://www.edutechltd.com/onlineregistration/MastersForum> or contact Robin Nixon at [rnixon@edutechltd.com](mailto:rnixon@edutechltd.com).

From 5 to 6 March 2005, the graduate community at Brown University and the Committee on Science and Technology Studies will host the 2005 Mephistos Conference. The international graduate student conference will discuss history, philosophy, and sociology of science, technology, and medicine. For more information, please visit <http://www.brown.edu/Students/Mephistos> or contact [mephistos@brown.edu](mailto:mephistos@brown.edu).

From 17 to 19 March 2005, the Society for History in the Federal Government (SHFG) and Oral History in the Mid-Atlantic Region (OHMAR) will hold their annual conferences in the Food and Drug Administration's Wiley Building in College Park, Maryland. For SHFG, the theme of the conference will be oral history in the federal government. For OHMAR, the theme will be the history of science, both applied and theoretical. For more information, please visit [www.shfg.org](http://www.shfg.org) and [www.ohmar.org](http://www.ohmar.org).

From 31 March to 3 April 2005, the Organization of American Historians will hold their annual meeting in San Francisco, California. The theme of "Telling America's Stories:

Historians and their Publics” will explore the variety of ways and places of interaction between historians and the public. For more information, please visit <http://www.oah.org/meetings/2005/index.html>.

From 14 to 17 April 2005, the National Council on Public History will hold their annual conference, hosted by the Truman Presidential Museum and Library in Kansas City, Missouri. The theme of “Defining Region: Public Historians and the Culture and Meaning of Region” will explore the ways in which public history and public historians investigate, collect, present, and preserve regional culture and history. For more information, please visit <http://www.ncph.org/index.html>.

From 18 to 21 April 2005, the 46th Structures, Structural Dynamics, and Materials Conference will be sponsored by the AIAA, American Society of Mechanical Engineers (ASME), American Society of Civil Engineers (ASCE), AHS, and ASC in Austin, Texas. For more information, please visit <http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=970>.

From 21 to 23 April 2005, the New York Archives Conference and the Capital Area Archivists of New York will cosponsor the Mid-Atlantic Regional Archives Conference in Albany, New York. The program theme will be “Archives Lost and Found in Translation.” For more information, please visit <http://www.lib.umd.edu/MARAC/maraccon.htm> or contact C. Raymond LaFever at [rlafever@mail.nysed.gov](mailto:rlafever@mail.nysed.gov).

From 29 May to 2 June 2005, the AAS will hold its semiannual meeting in Minneapolis, Minnesota. For more information, please visit [http://www.aas.org/meetings/meeting\\_dates.html](http://www.aas.org/meetings/meeting_dates.html) or contact Len Kuhl at [kuhl@astro.umn.edu](mailto:kuhl@astro.umn.edu).

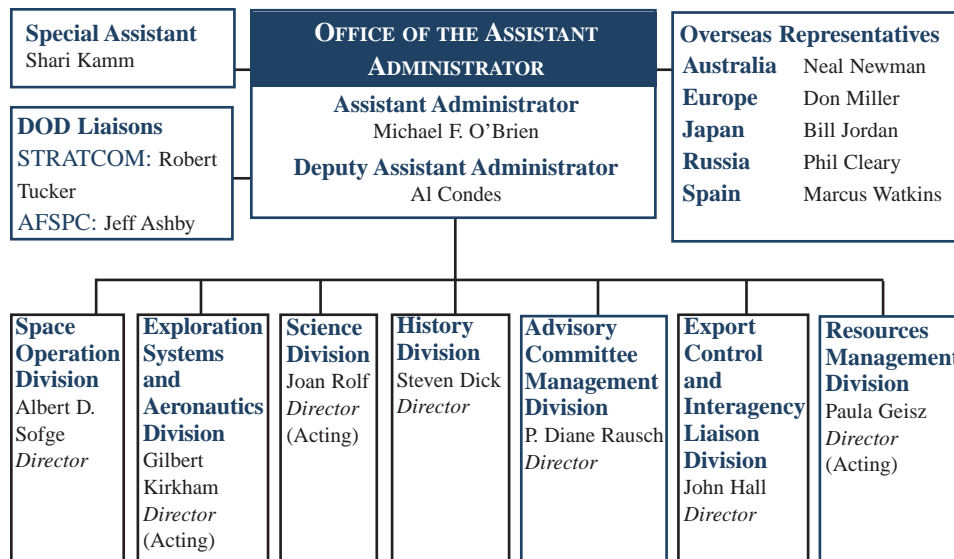
From 6 to 9 June 2005, the AIAA Applied Aerodynamics Conference, AIAA Computational Fluid Dynamics Conference, AIAA Fluid Dynamics Conference and Exhibit, AIAA Thermophysics Conference, AIAA Theoretical Fluid Mechanics Conference, and AIAA Plasmadynamics and Lasers Conference will be held in Toronto, Ontario, Canada. For more information, please visit <http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=1155> or contact Jamey Jacob at [jdjacob@uky.edu](mailto:jdjacob@uky.edu).

From 10 to 13 July 2005, the AIAA/ASME/Society of Automotive Engineers (SAE)/American Society for Engineering Education (ASEE) will hold the Joint Propulsion Conference and Exhibit in Tucson, Arizona. For more information, please visit <http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=1177>.

From 15 to 18 August 2005, the Guidance, Navigation, and Control Conference and Exhibit, AIAA Atmospheric Flight Mechanics Conference and Exhibit, and AIAA Modeling and Simulation Technologies Conference and Exhibit will be held in San Francisco, California. For more information, please visit <http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=1089>.

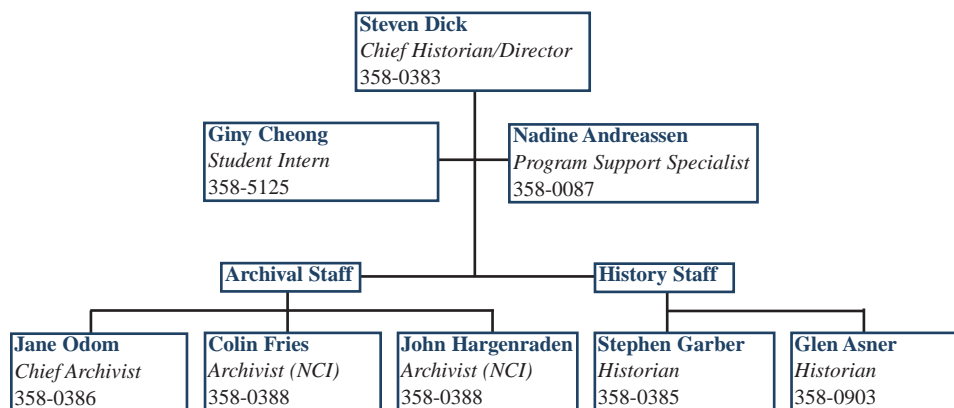
From 15 to 21 August 2005, the Society of American Archivists will hold their annual meeting in New Orleans, Louisiana. For more information, please visit <http://www.archivists.org/conference/index.asp>.

## OFFICE OF EXTERNAL RELATIONS



## HISTORY DIVISION—DECEMBER 2004

OFFICE OF EXTERNAL RELATIONS





## CONTACT INFORMATION AND CREDITS

---

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

To receive *News and Notes* via e-mail, send a message to [domo@hq.nasa.gov](mailto:domo@hq.nasa.gov). Leave the subject line blank. In the text portion, simply type “subscribe history” without the quotation marks. You will receive confirmation that your account has been added to the list for the newsletter and for receiving other announcements. We also post the latest issue of this newsletter at <http://history.nasa.gov/nltrc.html> on the Web.

Do you have more questions about NASA history in general? Please check out our NASA History Division Home Page at <http://history.nasa.gov> on the Web. For information about doing research in the NASA History Division, please e-mail us at [histinfo@hq.nasa.gov](mailto:histinfo@hq.nasa.gov) or call 202-358-0384.

We also welcome comments about the content and format of this newsletter. Please send comments to Giny Cheong, newsletter editor and compiler, at [gcheong@hq.nasa.gov](mailto:gcheong@hq.nasa.gov) or call 202-358-5125.

### NASA Headquarters History Division Staff Contact Information:

Steven J. Dick, Chief Historian	<a href="mailto:steven.j.dick@nasa.gov">steven.j.dick@nasa.gov</a> 202-358-0383
Nadine Andreassen, Program Support Specialist	<a href="mailto:nadine.j.andreassen@nasa.gov">nadine.j.andreassen@nasa.gov</a> 202-358-0087
Glen Asner, Historian	<a href="mailto:glen.asner-1@nasa.gov">glen.asner-1@nasa.gov</a> 202-358-0903
Giny Cheong, Intern	<a href="mailto:gcheong@hq.nasa.gov">gcheong@hq.nasa.gov</a> 202-358-5125
Colin Fries, Archivist	<a href="mailto:cfries@mail.hq.nasa.gov">cfries@mail.hq.nasa.gov</a> 202-358-0388
Stephen Garber, Historian	<a href="mailto:stephen.j.garber@nasa.gov">stephen.j.garber@nasa.gov</a> 202-358-0385
John Hargenrader, Archivist	<a href="mailto:jhargenr@mail.hq.nasa.gov">jhargenr@mail.hq.nasa.gov</a> 202-358-0387
Annette Lin, Intern	<a href="mailto:alin@hq.nasa.gov">alin@hq.nasa.gov</a> 202-358-0375
Jane Odom, Chief Archivist	<a href="mailto:jane.h.odom@nasa.gov">jane.h.odom@nasa.gov</a> 202-358-0386
Elizabeth Suckow, Intern	<a href="mailto:esuckow@hq.nasa.gov">esuckow@hq.nasa.gov</a> 202-358-0375

Created and produced by the following:  
 Giny Cheong, Intern, NASA Headquarters History Division  
 Michelle Cheston, Editor, NASA Headquarters Printing and Design Office  
 Tatiana Floyd, Designer, NASA Headquarters Printing and Design Office



## Vision

To improve life here,  
To extend life to there,  
To find life beyond.

## Mission

To understand and protect our home planet,  
To explore the universe and search for life,  
To inspire the next generation of explorers

. . . as only NASA can.



National Aeronautics and  
Space Administration

### **NASA HISTORY DIVISION**

Office of External Relations  
Washington, DC 20546

*<http://www.nasa.gov>*  
*<http://history.nasa.gov>*