

# The Link

BULLETIN OF THE NATIONAL CRYPTOLOGIC MUSEUM FOUNDATION, INC.

VOLUMES 9, NO. 3 - 11, NO. 2, COMPOSITE

Summer 2008

## THE CHANGING FACE OF THE NCMF

Events of the past year have moved too quickly for the slow pace of publication of *The Link*. Issues intended for publication covering Fall 2006 and Winter 2006-2007 have, accordingly, been “pulled back” from the printer and – to adopt the term recently applied to military action in Iraq – we are “surging” by consolidating about a year and a half of content into a single composite issue. That requires a great deal of compression and omission, even to “hit the highlights.” We apologize in advance for the omitted coverage. In return, we plan next to introduce *a new look*, with color photographs, as the beginning of some further experiments to improve our communication with you, our members and readers. We thank our ambidextrous colleague, **John Garcia**, and his associates and corporate sponsors for the interim issuance of the occasional “NCMF Newsletter,” mailed to you. Our webmaster, **Bob Bowie**, **Bill Saadi**, our website coordinator, and others are pondering changes in the NCMF web site. Thanks also go to occasional *Link* contributors **Ray Schmidt**, **David Hamer**, “cub reporter” **Mary Faletto**, **Kirsten Eland**, **Jim Boone**, Prof. **Mark Sommer**, and others whose by-lines have appeared. They represent the vanguard of what we hope will be a plethora of “new” (and familiar) names as we invite others of you to remember (as we reminded you in Volume 1, Number 1 ten years ago) that, by our old definition, a “link” should go both ways. We solicit your contributions and your feedback.

For those who have followed coverage of events in *The Link*, it may help to note that, under a Memorandum of Understanding with NSA, signed by Gen. **John E. Morrison**, NCMF President and Board Chairman, Gen. **“Linc” Faurer**, a fellow director of the NCMF and Chairman of our “Museum Exploration Committee,” was identified as our point of contact with the Agency. In late December 2004, at the urging of Dr. **Bob Hermann**, a “task group” was set up to concentrate on our “number one priority,” the effort to procure a new NCM and to “gift” it to NSA. Gen. Faurer agreed to spearhead the effort as chairman of a “New Museum Study Group” (*The Link*, Vol. 7, No. 4) and immediately set to work to assemble his group and to study the issues. At the March 2006 meeting of the Board of Directors (*The Link*, Vol. 9, No. 1), he reported having enlisted the support of both Foundation members and outsiders, prominent among them architects from the Ketcham Group, whose services and fund-raising advice had been provided earlier by **Randell M. “Rand” Griffin**. Another former DIRNSA, Lt. Gen. **“Ken” Minihan**, had agreed to assist by heading the all-important Capital Campaign, vital to the success of the enterprise. (To set the example, NCMF Board members had unanimously contributed to start the capital campaign.)

In a letter of 23 rison, NSA Director LTG USA commended the objective, and pledged the *Link*, Vol. 9, No. 2). Hav-Faurer with authority for tion then designated him the project as a whole, operations for the “Museum Management Group” (MMG), a Maryland-organized “non-profit,” which he would head as chairman of a seven-man Board of Directors, at least four of whom would be serving NCMF directors (*The Link*, Vol.



May 2006 to Gen. Mor- **Keith B. Alexander**, Foundation’s work and its support of the Agency (*The ing already assigned Gen. project funds, the Founda- as its executive agent for adopting his concept of*

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9, No. 2). With this authority, he commenced to flesh out the organization and to drive its efforts. An essential “slot” he wished to fill was that of Program Manager for the project, and for that position he gained the services of RADM (Ret.) **Winsor Whiton**. Working closely with Gen. Minihan, prospects for professionally-guided fund-raising were re-examined, and avenues were opened with the Agency and other key players.

Mid-year 2007 drew a clear line of demarcation between the past and the future direction of the NCMF efforts: founder and guiding spirit, octogenarian **John E. Morrison, Jr., President and Chairman of the Board of the NCMF**, yielded to the effects of serious injuries in April 2006 (*The Link*, Vol. 9, No. 1, 2) and the after-effect on his mobility, and he stepped down from his leadership role for the first eleven years. At the September 2007 meeting of the Board, presided over by Vice-President **Gene Becker**, Gen. Morrison’s resignation was accepted: deep appreciation was expressed to him on that occasion. Mr. Becker proposed that the title of Chairman of the Board, Emeritus, be accorded to Gen. Morrison, and he graciously accepted election to that honor. In consideration of that event, and the growing scope of the office, Mr. Becker proposed that the positions of President and Chairman be separately filled, with the Chairman setting strategic goals and direction and the President overseeing day-to-day operations of the “headquarters.” Mr. Becker was thereupon elected President of the NCMF and Gen. Faurer, Chairman of the NCMF Board (while continuing to serve, concurrently, in the “dual-hatted” position of Chairman of the Board of the Museum Management Group).

At that September 2007 Board meeting, Gen Faurer gave an up-dating and presented an organizational chart for the MMG, depicting three Senior Vice-Presidents (SVP), **Ken Minihan** (Capital Campaign), **Mike Jacobs** (Facilities), and **Bill Kvetkas** (Finance and Budget), and **Winsor Whiton** as Program Manager. Other names familiar to the Agency and the Foundation included **Dave D’Auria** (Fund-raising leads), **Len Moodispaw** (Federal, State and local involvements), and **Bill Crowell** (Communications). Former Secretary of Defense, Dr. **William J. Perry** had agreed to serve as Honorary Chairman, assisted by deputies **Norman R. Augustine** and **John M. Deutch**. Gen. Faurer was frank to admit the adverse impact of the economy, the preoccupation with the forthcoming national election, and the competition with other museums and “non-profit” organizations appealing for aid. He and his MMG colleagues were examining adjustments that might be required in the timing for the launching of the capital campaign and for the facility that could be planned.

Moving to consolidate his authority and responsibilities, during the winter of 2007-2008, Gen. Faurer implemented the rotational tenures for directors provided in the Foundation’s by-laws. (See “NCMF Newsletter,” Spring 2008.) “Plank-owners” **Ann Z. Caracristi** and ADM **William O. Studeman** (“father” of the NCM) retired from the NCMF Board, along with **Ralph Adams**, **Gene Becker** (to President, NCMF), **MG Thomas J. Flynn**, **Michael J. Jacobs** (to Vice-President, NCMF), all of whom were thanked for their service. Joining the Board as new directors in February 2008 are: **Joan Dempsey**; **MG Rod Isler**, USA (Ret.);

**Rick Knop**; **Mark Lowenthal**; **Art Money**; and **Lisa Trombley**. Moving at the same time were Committee chairs, Recognition, **Sarah L. Botsai**, vice **Milt Zaslow** (“retiring”); Public Affairs, **John Garcia**, vice Dr. Botsai; Membership, **Michael S. Green**, vice John Garcia. (Before leaving this subject, it would be appropriate to note that former NSA Director “**Mike**” **McConnell**, VADM USN (Ret), accepted an invitation to join the NCMF Board, attended the December 2007 meeting, then submitted his resignation, with regret, not too many weeks later – having received a “higher calling” as the new Director of National Intelligence!) ★



*General Morrison*



*General Faurer*



*Gene Becker*

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## HALL OF HONOR INDUCTEES

Initiated by the NCMF in 1999 to pay special tribute to the pioneers and heroes of American cryptology and embraced by NSA (*The Link*, Vol. 1, No. 4), the Hall of Honor serves to identify those individuals considered to represent “the best and brightest” of those thousands of cryptologists who have dedicated their lives to providing and protecting our Nation’s most important communications.

In most cases, the details of their performance remain classified, barring full public understanding of their contributions and leading to somewhat trite recitals of generalities. But for those involved in NSA’s selection process, which includes



participation from the Foundation, there is deep commitment to their task, and a determination that those added to the ranks of “the Giants” merit such distinction.

For 2006, five names were selected, to be added to the 33 previously inducted. The new selectees were Brig Gen “Ben” Ardisana, USAF; Mr. Edward A. “Ted” Everett; Mr. Cecil J. Phillips; Mr.

James W. Pryde; and Mr. Thomas E. Tremain, representing the spectrum of telecommunications, linguistics, cryptanalysis, telemetry analysis, and voice encryption.

Attended by family members and friends, as well as serving and retired colleagues, the 11 December ceremony at the National Cryptologic Museum featured NSA Deputy Director John C. “Chris” Inglis. After opening remarks by Museum Curator Patrick Weadon, followed by a rendering of the National Anthem by Ms. Janise Richmond, Mr. Inglis extended a welcome to those present. With the NSA Historian, Dr. David A. Hatch, narrating the accomplishments of those selected, Mr. Inglis unveiled each portrait and plaque. At the conclusion, the National Cryptologic Museum Foundation hosted a reception in honor and memory of those selected.

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### FOUNDATION DIRECTOR JAMES W. PRYDE HONORED

An abbreviated review of the past year and a half skips over planned feature articles, but a few words must be preserved to salute our colleague and fellow member of the NCMF Board of Directors, Jim Pryde. Profiled in his own words and selective recollections in *The Link*, Vol. 7, No. 2 (“From Tuskegee Airman to Cryptologist”), and inducted into the Hall of Honor in 2006, as recounted below, Jim was among the recipients of a Congressional Gold Medal in March 2007. His proud, but bitter-sweet memories of his youth must have been stirred again by the words of President Bush before the Congress, honoring the performance of “the Tuskegee airmen” of World War II, and reflecting upon the contrast, six decades later, of witnessing a full general, Colin Powell, as Chairman of the Joint Chiefs of Staff and subsequently as Secretary of State, followed by Dr. Condoleezza Rice. As WW II was drawing to an end, Jim was denied his dream of flying, but his training with communications equipment led eventually to a career culminating as a Senior Executive at NSA. His presence among us does us proud and serves as a living link with “the greatest generation” that forms the core of the National Cryptologic Museum. ★

### Brig Gen Bernard Ardisana, USAF

Gen. Ardisana served in the US Army Air Force during WW II, then received his degree from the University of Illinois at Urbana. He was recalled to active duty during the Korean War. “Ben,” as he was familiarly known by his colleagues, became chief of a section in the 6901st Communications Group in Germany from 1958 to 1961.



In that capacity, he became instrumental in designing the Operations Communications (OPSCOMM) system. His section also developed analytic techniques that allowed accurate predictions of an important activity by a major U.S. Cold War adversary.

In 1976, Gen. Ardisana became the first U.S. Air Force Signals Intelligence Officer to attain to general officer rank. He went on to command the USAF Security Service’s 6924th

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## HALL OF HONOR INDUCTEES

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Security Squadron during the Vietnam War, and served, from 1976 to 1977, as Vice Commander of the USAF Security Service. He was subsequently assigned to NSA headquarters, specializing in support to, and improvement of, field operations.

Throughout his many years of military service, Gen. Ardisana was the on-scene cryptologic communications expert who developed or implemented fundamentally important changes to USAF cryptologic operations and procedures. His work on the OPSCOMM system remained the basic configuration for nearly 25 years at U.S. SIGINT sites. His pioneering work in the development of rapid communications was a key concept that was used in the development of the Critical Intelligence Communications system. Innovative concepts he introduced to collection management resulted in optimization of effort and increased productivity. His sudden death in January 1978, while serving as NSA's Assistant Deputy Director for Operations, removed an effective leader and engaging colleague from the ranks of the U.S. SIGINT system.

### **Edward A. "Ted" Everett**

"Ted" Everett was born in 1925 in Jaffa, Palestine, and grew up as a native speaker of both Arabic and English. He was educated at the American University in Beirut and the Georgetown University. In 1956, he left employment at the U.S. Embassy in Beirut and became an employee of the National Security Agency.



As a senior language analyst, Mr. Everett initiated an extensive NSA language effort and established an overseas language operation "from scratch." He made important contributions in intelligence support during almost every crisis in the Middle East from the 1950s to the 1990s. He developed cryptologic language training for the U.S. Army and for NSA. He developed and taught four dialect courses for NSA – the first dialect courses offered by the National Cryptologic School. Nearly 30 years later, the materials he devised for those courses are still used as reference aids by operational analysts.

Mr. Everett was the first chairman of the Arabic Professional Qualifications Examination (PQE) committee at NSA, and developed the first-ever PQE used for any language at

the Agency. Working aids he developed have formed the basis for many of the electronic language databases still in use.

Mr. Everett's lexicographical expertise was so well known that he was asked for by name, and became a major contributor to a definitive dictionary of Arabic. His colleagues referred to him as "the father of Arabic language analysis" in the cryptologic community.

### **Cecil J. Phillips**

North Carolinian Cecil J. Phillips (1923-1998) attended the University of North Carolina for two years, then, rejected by the U.S. Army at age 18 because of flat feet, he was recruited as a civilian by the Army's Signal Security Agency (formerly the Signal Intelligence Service), the Army's cryptologic organization. He worked on Japanese codes for about a year, then was transferred to a new section working on Soviet diplomatic communications. It was his critical finding that enabled the breakthrough in what history now knows as the VENONA project. By war's end, in 1945, Mr. Phillips headed a section of 50 people working with "the Soviet problem" -- all this by the age of 20.



Beginning in 1950, Mr. Phillips became associated with data automation, working with one of the world's earliest computers, ATLAS. Integrated into the Armed Forces Security Agency, forerunner of NSA, he continued this specialization at NSA. In the 1960s, he headed a series of organizations involved in the automation of cryptanalysis and radio traffic analysis. He was a key member of a group that planned the system to forward intercepted "raw traffic" via secure teletype from field sites to NSA. During the 1970s, Mr. Phillips became chief of the organization that planned the acquisition of the next generation of central computers, and was instrumental in pushing a system that would tie computers together into a central network.

Although retired from NSA in 1980, in the 1990s he teamed with Mr. Robert L. "Lou" Benson, a history-minded member of NSA's Security Organization, to write the history of the VENONA project and gave numerous classified and unclassified lectures on the subject. Mr. Phillips passed away on 27 November 1998.

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(Cecil was profiled in *The Link*, Vol. 1, No. 4 as “a cryptologist afforded the rare privilege of outlasting the security restrictions on his most memorable project and becoming identified with it publicly.” He was a firm supporter of the Museum and the documentation of cryptologic history. He last appeared among our membership at the Annual Meeting in October 1998. Of special significance to the National Cryptologic Museum Foundation, Cecil’s widow, Nancy Cook Phillips (who also worked at Arlington Hall 1944-’47, including “the Russian problem”) asked that, in lieu of flowers, memorial donations go to the NCMF – the first such request, and the origin, among other designated donations, of our Memorial Registry. Mrs. Phillips died on 9 February 1999.)

### **James Wellington Pryde**

Mr. Pryde joined the Army Air Corps during WW II and, in 1944, entered aviation school. Due to a need for crew and support personnel, rather than pilots, he was diverted into radio operator and maintenance training, as a member of the later famous “Tuskegee Airmen.” Honorably discharged, he joined the Armed Forces Security Agency in 1950 as a communications clerk and was assigned to the mailroom. When it was discovered that he could read automatic Morse tape, he was transferred to a signals analysis section, where he became a telemetry analyst. (He later recalled that his arrival “integrated” the section, of which he later became chief.)

As his career progressed, Mr. Pryde spent two years on detail to the staff of the Assistant Secretary of Defense. From 1978 to 1980, he served as the Director of the Defense Special Missile and Aeronautics [now Aerospace] Center (DEFSMAC). While with DEFSMAC, he became a member of the Intelligence Community’s Guided Missile Astronautic Intelligence Committee (GMAIC). In 1980, he served as the NSA/CSS Representative to the Department of Defense at the Pentagon, and, in 1981, Assistant Director of Administration at NSA

During his tenure, Mr. Pryde served as an advocate for NSA African-Americans. Through his efforts, he helped to promote a diverse workforce within NSA, and has striven



since to remind the current generation of the struggles waged by their predecessors for equality. Since his retirement from NSA, Mr. Pryde continues to serve NSA interests as a member of the Board of Directors of the National Cryptologic Museum Foundation.

(A constituent NCMF Director, Board Member Jim Pryde, SCES Ret., was author of an inspiring biographic sketch, “From Tuskegee Airman to Cryptologist,” appearing in *The Link*, Vol. 7, No. 2.)

### **Thomas E. Tremain**

Mr. Thomas E. Tremain (1934-1995) came to NSA as an Air Force lieutenant in 1959 and commenced a career that, continuing from civilian status in 1961, saw him rise to become the U.S. government’s expert on voice encryption. He received his electrical engineering degree from Johns Hopkins University in 1966. While working at NSA, he achieved a high record of innovation in theory and applied science. His work became the basis of virtually every digital U.S. modem and speech-coding standard for satellite communications and hand-held digital cellular systems. Algorithms he developed reside in the third generation STU-III encrypted voice systems in use today.



Appointed chairman of the U.S. Government Digital Voice Consortium by the Assistant Secretary of Defense (Command, Communications, Control, and Intelligence), Mr. Tremain headed the consortium for three decades and built it into the premier U.S. Government speech research forum. He went on to establish an independent speech-testing center that the U.S. used to evaluate voice algorithms – a milestone in the U.S. speech research program.

Mr. Tremain’s ideas have and will continue to influence speech research, especially in the United States, for decades. Many of his peers consider him one of the most dynamic senior scientists ever at NSA. Mr. Tremain passed away in 1995.

(Additional details about Mr. Tremain’s accomplishments may be found in “A History of Secure Voice Coding” on NSA’s website ([www.nsa.gov/publications/publi00048.cfm](http://www.nsa.gov/publications/publi00048.cfm)). A memorial tribute by Joseph P. Campbell, Jr. appeared in *IEEE Transactions on Speech and Audio Processing* 4, No. 1 [January 1996], 1.)

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## HALL OF HONOR INDUCTEES

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In like manner, on 25 October 2007, with Deputy Director John C. Inglis offering the keynote, the following were inducted into the Hall of Honor:

### Jacob Gurin

Jacob Gurin, a graduate of New York University, has been described as "... a moving force... always... where the action was." Jack (or Jake) was a man of myriad dimensions and talents – a published translator of Tolstoy, a World War II Army captain who served as a Japanese translator and interpreter, and a Russian language analyst and speech researcher who became NSA's Chief of Language Research. A visionary leader, Jack left NSA/CSS a rich and impressive legacy.



Gurin epitomized the 21st century term "change agent." It was he who formed the Plain Language Exploitation Group in 1947 after target changes led to a loss of exploitable encrypted intercept. Gurin expanded his group, sometimes in nontraditional ways: breaking precedent in a segregated organization, he systematically hired and trained African-Americans in cryptology.

Jack Gurin also led the way in what are now known as the Less-Commonly-Taught Languages. He predicted, correctly, that the liberation of nations from colonial empires would result in many targets shifting to languages NSA was unprepared to handle. He conceptualized and then implemented a program to produce reference and training materials in these languages. His foresight helped prepare NSA/CSS for the challenges it faces today.

Convinced that American cryptologists would eventually be swamped by voice communications, Gurin drove technology solutions that were unheard of in his time. Years ahead of the curve, he pushed to digitize dictionaries so that language analysts could quickly conduct research, and sought to create

voice recognition systems. While his vision outpaced some of the technological solutions available at the time, every one of his ideas is a reality today.

Jack Gurin retired from NSA in 1980. He passed away in 2004.

### Dr. Robert Hermann

Since his earliest days in intelligence activities, Dr. Robert Hermann has been an innovator in engineering research and development.

Dr. Hermann earned his Ph.D. in electrical engineering from Iowa State University, and received a commission in the U.S. Air Force. He was assigned to the National Security Agency; upon leaving the military, he became an NSA civilian in 1959.

He held progressively more responsibility in his assignments in the Operations Directorate, predecessor to today's Signals Intelligence Directorate, and the Research and Development organization; he also served an outside assignment with the NATO staff. In each of these assignments, he developed new ways to apply technology to NSA operations. From 1973 to 1975, he served as NSA's Deputy Director for Research and Engineering.

Dr. Hermann moved beyond NSA, as his unique talents were recognized outside the Agency. From 1977 to 1979, he was Deputy Assistant Secretary of Defense for Communications, Command, Control, and Intelligence (C3I). He then served as Assistant Secretary of the Air Force and, concurrently, as Director of the National Reconnaissance Office (NRO). Dr. Hermann retired from government service in 1982.

Former DCI James Woolsey, in presenting Dr. Hermann with a community-wide award, called him "one of the architects of America's modern world-wide technical intelligence networks," and noted Dr. Hermann's visionary concepts for capabilities "upon which the United States will rely for many years." (Dr. Hermann currently serves as a director on the NCM Foundation's Board of Directors.)



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### **Samuel S. Snyder**

Samuel Simon Snyder began his career as an “assistant cryptographic clerk” with the U.S. Army’s Signal Intelligence Service in 1936. The Baltimore native was one of the first ten employees in that organization, a predecessor of NSA. In 1939 he was graduated from The George Washington University. During World War II, he led large teams that exploited Japanese army cryptosystems.

Noticing that use of sorting machines for cryptanalytic support was haphazard, Snyder suggested a more systematic approach to William Friedman, and Friedman tasked him with developing it. Snyder’s innovations made special-purpose devices a strong asset in rapid wartime exploitation of enemy communications.

After the war, Snyder carefully researched what was known about the new field of computing and in 1952 was instrumental in designing and building ABNER, a then-sophisticated computer that took advantage of advanced technology.

During the 1950s, Snyder conducted in-house research and worked with outside contractors to design and build three more powerful systems. The last of these was HARVEST, one of the first general-purpose computers. HARVEST greatly expanded NSA’s computing capabilities, but also had significant influence on the commercial computer market.

In 1964 Snyder became an information systems specialist for the Library of Congress and was one of the creators of the library’s Machine Readable Cataloging (MARC) system for bibliographic data. This became an international standard for data sharing in research.

Samuel Snyder’s pioneering work in early computers led directly to the development of the computer as we know it, and laid the foundation for many aspects of the modern computing industry. (On 28 December 2007, NCMF member Snyder passed away at the age of 96.)



### **Milton Zaslow**

After graduating from the College of the City of New York in 1942, Milton Zaslow studied the Japanese language at New York University in anticipation of military service. Completing his training as an Army combat intelligence officer, he provided linguistic direct support during landings on Tinian and Okinawa.

At the end of the war, Captain Zaslow transferred to Arlington Hall and the Army Security Agency, where he added Chinese to his language abilities and subsequently converted to civilian status. During the Korean War, he was one of three language analysts who discovered the usefulness of overlooked communications and developed firm evidence from Communist message traffic that the Chinese military was poised to intervene in the war.

In the early 1950s, Zaslow rose quickly through the supervisory chain. He was able to institute fundamental changes in the form of reporting the product of NSA’s exploitation of foreign communications. From 1961 to 1963, he was deputy chief, then chief of NSA operations in Japan. In 1968 he became chief of the organization responsible for tracking developments in Vietnam, and he held this post through most of the rest of the war in Southeast Asia. In each of these supervisory positions in Production (Operations), he was known for his innovative thinking in the improvement of intelligence support to U.S. operations.

In 1969, NSA Director VADM Noel Gayler named him the first NSA Representative to the Department of Defense. His strong interactions with the national military command authority brought NSA increased respect for its role as an essential “team player” in direct support.

Zaslow held several other important posts in Production, and also served as the NSA Representative in the United Kingdom from 1975 to 1978. He was Deputy Director for Telecommunications and Computer Services at the time of his retirement in 1979, having enhanced the integration of NSA telecommunications and computer operations.

Throughout his career as an analyst, senior manager and executive, Milton Zaslow was respected as an innovative thinker, who could be counted on for the solution of difficult problems and for devising new ways to accomplish whatever tasks he undertook. (In retirement, he has continued to support NSA’s Center for Cryptologic History and to serve the NCM Foundation in a variety of ways.)



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## NCM UNVEILS NEW POPPY EXHIBIT



On 14 December 2006, NSA Deputy Director **John C. “Chris” Inglis**; Brigadier General **Larry D. James**, USAF, Director, Signals Intelligence Systems Acquisition and Operations Directorate, National Reconnaissance Office (NRO); and Captain **Daniel Gahagan**, Commanding Officer, Naval Research Laboratory (NRL),

unveiled the new POPPY Satellite Reconnaissance Program exhibit at the National Cryptologic Museum. Mr. Inglis hosted key NSA, NRO, and NRL personnel responsible for the success of the POPPY program. POPPY was the successor to the Nation’s first electronic intelligence satellite, known as GRAB (“Galactic Radiation and Background,” its cover, or codename TATTLETALE), also on display at the Museum.

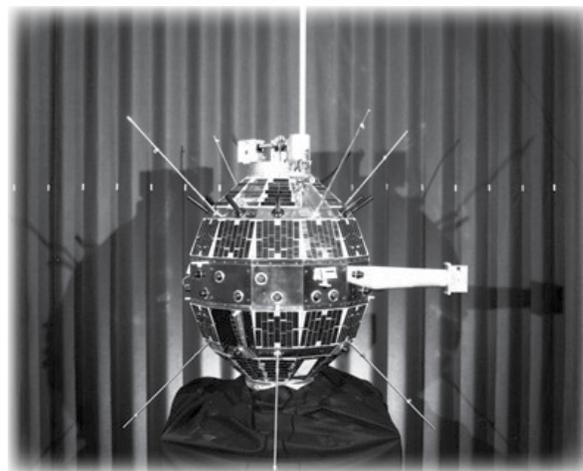
GRAB, the world’s first reconnaissance satellite was in the final stages of development by the US Naval Research Laboratory (NRL) at the time of the loss of Gary Powers’ U-2 spy plane on 1 May 1960. Following the U-2’s shoot-down President Dwight D. Eisenhower ordered the cancellation of all further manned reconnaissance flights over the Soviet Union, the void to be filled with a series of satellite launches. GRAB I was the first of these and rose into orbit on 22 June 1960 atop a Thor-Able-Star rocket launched from Cape Canaveral, Florida. A year later, on 29 June 1961 GRAB II was placed into orbit. (See the article by **James V. Boone**, “A SIGINT Cat is out of the Bag,” in *The Link*, Vol. 1, No. 2, Summer 1998.)

POPPY, NRL’s follow-on project, became a multi-agency satellite system when the NRO was established in 1961, shortly before the satellite was

launched on 13 December 1962. It was designed to detect land-based radar emitters and support ocean surveillance. Personnel who worked on the POPPY project made tremendous contributions to our Nation’s security during the Cold War era, from 1962-1971, a span that included seven successful launches of POPPY satellites. The program was declassified in 2004. Additional details about the twin programs may be found in a pamphlet (“Raising the Periscope”), developed by the NRO History Staff, drawing on the work of historians from the NRO, NRL, NSA, and Dr. **David Kahn**, an NCMF director. (Copies are available in the Museum.)

The GRAB/POPPY exhibit was officially declared ‘open’ and dedicated by a small group that included the guest speakers and a number of representatives of the defense contractors involved in the development and manufacture of the satellites. Attendees were welcomed and guests introduced by NCM Curator **Patrick Weadon**. Physical limitations within the museum dictated that the proceedings be transmitted to the guests assembled in the museum’s MAGIC conference room via a closed-circuit television link.

(Refreshments were provided by the NCM Foundation subsequent to the ceremony.) ★



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## 2006 GENERAL MEETING

Dr. David Hamer, NCMF

The NCMF held its Eighth Annual General Membership Meeting on Wednesday, 4 October 2006. The event observed the Tenth Anniversary of the foundation and featured a number of speakers from the past and current senior ranks of NSA. The title, reflecting the theme of this year's event, was *Technological Impact on Intelligence in the Next Ten Years*.

The day-long event began with Registration, during which a Continental Breakfast was served. Once these preliminaries were out of the way Mr. **Eugene Becker**, NCMF Vice-President, opened the day's program by introducing the first speaker, Mr. **Chris Inglis**. The newly-appointed Deputy Director of NSA (introduced in our previous issue) gave a stirring presentation in which he expressed his delight with his new position and gave a number of pointers to his hopes and plans for his tenure.

Shortly after D/DIR began his talk, the double doors at the rear of the stage of the auditorium opened and our much loved and sorely missed Foundation president, Maj. Gen. **John. E. Morrison, Jr.**, USAF (Ret.), was wheeled into the conference and took his customary place amongst those in the front row...his entry accompanied by a standing ovation. Mr. Inglis smilingly took this break in stride and, when the plaudits had subsided, resumed his talk.

Following upon Mr. Inglis' presentation the Programs Chairman of NCMF, Brig. Gen. **'Billy' Bingham**, USAF (Ret.) took over the podium to introduce former DIRNSA, Lt. Gen. **Kenneth Minihan**, USAF (Ret.), who now spearheads the capital campaign for the New Museum. He delivered the Tenth Anniversary Address, summarizing the activity of the first decade of the Foundation's existence, accompanied by an upbeat forecast for the next decade. That forecast included a number of informational remarks on the proposed new facility for the National Cryptologic Museum [NCM] now in the planning and fund raising stages.

A short refreshment break was followed by a presentation by Mr. **William Kvetkas, Jr.**, whose topic was *Overview of New Museum Project*. Mr. Kvetkas, formerly a senior civilian official with NSA and the foundation's Treasurer Emeritus, serves as a board member of the foundation and on the steering committee of the proposed New Museum.

'Billy' Bingham then introduced Ms. **Jane Hudgins**, Deputy Director of Public and Media Affairs at NSA who, on behalf of the NCM Curator, presented additional information on the new museum plans and then made a most

popular presentation, an introduction to the new *'Krypto-Kids'*, a group of cartoon-like characters designed to appeal to the potential codebreakers amongst the younger members of the crypto community. (See *The Link*, Vol. 8, N o. 4, Winter 2005-2006.)

Gene Becker returned to the podium to present an overview of the year's activities by members of the various committees of the foundation, ably assisted in his presentation by Mr. **David D'Auria**, Chairman of the foundation's Acquisitions Committee. Mr. D'Auria and his Vice-Chair colleague, Dr. **David Hamer** also presented, in a lobby display, a number of artifacts acquired on behalf of the museum during the past twelve months. This display was well attended by delegates during the breaks between sessions, as were additional display tables on which the Museum Gift Shop, operated by the NSA Civilian Welfare Fund, presented souvenir items for sale and another at which the Foundation sold items with the NCMF logo. Author and NCMF member **Jim Boone** was present to autograph copies of his book, *A Brief History of Cryptology*. (Copies of this book may be ordered from the Foundation office at <cryptmf@aol.com> and via the Foundation's website at [www.cryptfoundation.org](http://www.cryptfoundation.org).)

Lunch was followed by the introduction by 'Billy' Bingham of the Keynote Speaker, Dr. **Anthony Tether**, Director, Defense Advanced Research Programs Agency (DARPA), who presented a detailed explanation of that agency's unusual and most flexible management structure. Dr. Tether's presentation was well received and particularly notable for both its content and for the speaker's manner of presentation.

The final speaker presented at the podium by Mr. Becker was Lt. Gen. **James Clapper**, USAF (Ret.), former head of the National Geo-Spatial Intelligence Agency. General Clapper gallantly filled the gap as a last-minute substitute for Mr. **Charles F. Allen**, Asst. Secretary for Intelligence Analysis, Dept. of Homeland Security, scheduled to be the guest speaker, but called to a meeting at the White House at very short notice...rank hath its privileges...and the foundation is grateful for Gen. Clapper's understanding and flexibility.

The conference closed with a few administrative remarks by NCMF Vice-President Gene Becker who thanked the delegates and guests for their presence and announced the dates of the 2007 conference to be held in conjunction with the next two-day biennial Symposium on Cryptologic History planned by NSA's Center for Cryptologic History [CCH].

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## 2007 GENERAL MEETING

Dr. David Hamer, NCMF

The 2007 General Membership Meeting took place on 17 October, also at the Kossikoff Center in Laurel, Maryland. Gen **Linc Faurer**, Chairman of the Board of the NCMF, opened the day-long session with a welcome to members and guests and a reminder of the silent auction and sales of cryptologic artifacts in the lobby. (This new project brought in over \$1100 by the end of the meeting. The funds will be used for Foundation activities and acquisitions for the NCM, and a similar event is planned for 2008.)

He then introduced Mr. **Ethan Bauman**, who spoke on behalf of Deputy Director Inglis, about the effects of the BRAC recommendations to relocate about 5000 new jobs to Ft. Meade. While this will greatly enlarge the pool of talent in the area and increase prospects for Agency recruitment, transportation, schools, power, and other infrastructure costs will have to be addressed. The Agency is working with state, local and military authorities to assess the impact and make decisions about these costs. In this regard, he stated that the Museum will play an important role in helping the public understand and accept the Agency's critical role in the community.

Congressman **C.A. Dutch Ruppertsberger** (D - 2nd Maryland District) then spoke. In addition to discussing military base-closing issues, he noted both the exceptional talent in the Agency and the need to stay ahead of competitors by assessing both successes and failures and by increasing attention to R&D. He drew a comparison between the time and expense of government projects and comparable projects in the commercial sector, noting that the latter often completed space projects on budget and on time. He also noted that the Agency needed to attract people who have an intimate knowledge of the language and culture of countries and peoples in whom the agency is interested.

Special presentations were then made to Maj Gen **John Morrison** and Mr. **Fred Demech** for their outstanding contributions to the Foundation and Museum. Standing in for the DNI, Mr. **Mike McConnell**, who had been called to the White House for a meeting, Ms. **Mary Margaret Graham**, Deputy

Director of National Intelligence for Collection, spoke about key intelligence challenges. She traced the difficulties surrounding intelligence reform, dating back to the founding of CIA in the 1940s and continuing to the present. The community has been heavily influenced by 9/11, however, and there may now be greater motivation for change. Following the creation of the National Intelligence Strategy under the first DNI, Ambassador **John Negroponte**, Mr. McConnell has set forth a 100-day plan, which includes greater attention to joint assignments, information security reform, revision of policy directives, and integration of community collection systems. The community is looking not at perfection in the near term but at achieving an interim 80% solution. She also touched on centralization of budget authority, pay modernization and working with law enforcement agencies at the national and local levels.

Next on the program was a status report by Gen. **Kenneth Minihan** on the new museum in a climate of tighter budgets and fewer corporate contributions. The plan includes revising the scope of the new museum and pushing the timelines farther out in the future, in hopes that the economic situation will improve.

Museum Curator **Patrick Weadon** then gave an update on current plans, including upgrading the **PURPLE** exhibit, establishing a new area in which to show some of the David Kahn collection in a climate-controlled, secure environment, and a zero-based review of museum holdings.

Mr. **Prescott Winter**, chief of the NSA's Technology Directorate, reported on the role of this new organization, created to provide greater attention to the integration of systems and to address the effects of the commercially driven environment. He was followed by Gen. **Billy Bingham**, who reported on the New Orleans Synergy Conference, and by Mr. **Eugene Becker**, President of the NCMF, who gave the annual report of Foundation activities.

(The next General Membership Meeting is scheduled for 17 November 2008. Details will be forthcoming.) ★

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## HAL JOSLIN RECALLS WW II ORDEAL

by Bill Ferguson, NCMF

The Foundation's 2006 Pearl Harbor commemoration, coming as it does each year during the season of hope, was particularly apt, as our speaker, retired Navy Captain **Hal Joslin**, exemplified hope and other positive virtues during his struggle to survive imprisonment by the Japanese. Captain Joslin spent almost four years as a slave laborer in Japan after his capture on Guam shortly after the outbreak of the war. His captivity was especially stressful because he was a member of the "On the Roof Gang" and had trained as an intercept operator in Washington, D.C. Had the Japanese learned his true mission as an interceptor of their communications he would have faced torture and possibly death. Worse, if he or one of his mates had "broken", the Japanese would have changed their codes! Fortunately, he and his seven fellow team members survived numerous interrogations throughout their captivity without revealing anything of value to their captors.

Transported to Japan in a crowded merchant ship (mercifully, not one of the "Hell Ships"), he spent almost four years slaving on Japanese docks in northern Japan. Despite poor food, lack of clothing in the cold northern climate, and injury to the nerve endings of his feet because of wearing wet or frozen shoes, he survived the ordeal relatively well.

He attributed his survival to his enduring faith in his God, his love for his wife, and his feisty, positive attitude that he demonstrated by committing acts of sabotage to the cargo at every opportunity and risk-taking to get food and medicine for his mates. To keep his mind occupied he studied and taught courses after "lights out".

His presentation not only demonstrated his positive attitude but also his magnanimity. Although he never returned to the site of his captivity, he emphasized that he bore no malice toward his captors because he believed that acts of cruelty perpetrated by indi-

viduals were random acts, not calculated or officially sanctioned policy.

As the war progressed conditions in the camp worsened in terms of food and medical care and he stated that dropping the A-bombs probably saved the POW's lives. The camp regimen changed shortly after the nuclear attacks to the point where the erstwhile prisoners took over the camp. By the time the liberating forces arrived three weeks later most of the camp's inhabitants had regained health and strength using the food and medicines they found in Red Cross parcels denied them by their captors.

Fittingly, Captain Joslin closed out his presentation reading a paragraph written by Winston Churchill, himself a POW during the Boer War, describing the physical and emotional impact on imprisoned individuals. Fortunately, Capt. Joslin managed to rise above his situation, survive the war, and continue on to a distinguished career - an outstanding example of the power of faith and hope!

(CAPT Joslin's extraordinary tale of survival is available on DVD for \$11.50 including shipping and handling. You may contact the NCMF office at 301-688-5436 or [cryptmf@aol.com](mailto:cryptmf@aol.com) to purchase a copy.)



*Bill Ferguson, Captain Hal Joslin, & Gen. Morrison*

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## ADDRESS BY SIR ARTHUR BONSAALL - FORMER DIRECTOR OF GCHQ

### Dr. David Hamer, NCMF

On 20 October 2006 the National Cryptologic Museum was privileged to be the forum for an address by Sir **Arthur Wilfred “Bill” Bonsall**, who began his SIGINT career at Bletchley Park and ultimately served as Director of the UK’s Government Communications Headquarters [GCHQ] from 1973 to 1978. He was knighted in 1977 by HM Queen Elizabeth II.



*Dr. Hamer, Gen Morrison, Sir Arthur*

The presentation was sponsored jointly by NSA’s Center for Cryptologic History [CCH] and the Kryptos Society. CCH’s Dr. **David Hatch**, the NSA Historian, began the proceedings with a brief overview of Sir Arthur’s intelligence career, which began in the early 1940’s. He was, at that time, a newly minted graduate of Cambridge University, having read Modern Languages at that prestigious seat of learning. His language skills, particularly in German, attracted the attention of recruiters at the Government Code and Cypher School [GC&CS, predecessor of GCHQ] based at Bletchley Park [BP] in the county of Buckinghamshire, about sixty miles north of London and roughly equidistant between the two great universities of Cambridge and Oxford. Arthur Bonsall was recruited, in the manner of the day, via a recommendation from his tutor, **Martin Charlesworth**, which led to an interview carried out by two of the great names from cryptologic history, **Alastair Denniston** and Colonel [later Brigadier] **John Tiltman**, British Army.

Dr. Hatch discussed the background to BP’s formation prior to World War Two, which included the Polish contribution to the breaking of Enigma and revelations of the early 1970’s, triggered by Group Captain Winterbotham’s book, *The ULTRA Secret*, that opened the floodgates of information on the hitherto secret project. **Gordon Welchman**’s subsequent, *The Hut Six Story*, added to the public’s knowledge of the Allied codebreaking effort. The secret was out.

Sir Arthur had set his presentation in the form of a Ques-

tion and Answer session, but began with a brief summary of his introduction to and arrival at BP, where he found himself assigned to the Air Section, serving under **Josh Cooper** in BP’s now famous Hut Three. Questions from his audience followed rapidly. These focused largely upon the personalities of the era and inevitably included the great **Alan Turing**. Our speaker unfortunately had little except passing contact with ‘The Prof’, as Turing was known, this last being the inevitable consequence of the isolation of individuals within BP resulting from the high degree of compartmentalization and ‘need to know’ that prevailed, and prevails, among the intelligence communities of the world.

Our speaker fielded questions, from those assembled, on such luminaries as John Tiltman and, **Hugh Alexander** – the British World Chess Champion – Sir Arthur demonstrating that, even after the passage of almost sixty-five years, his detailed recollection of the activities in Hut Three and among those individuals with whom he was associated remains fresh. He spoke of the Americans with whom he had come into contact at BP and of lunchtime ball games, such as ‘rounders’, a British version of baseball with very different rules, played on the lawn by the lake adjacent to the mansion. Sir Arthur met, during one of his earlier visits to BP, **William Friedman**...a meeting that left a great impression upon him.



*Gene Becker, NCMF Treasurer Ed Jacobs, Sir Arthur*

Sir Arthur stayed with GC&CS until that organization reconstituted itself as GCHQ in mid-1946, moving to London [Eastcote] and ultimately to Cheltenham in Gloucestershire, some ninety miles west of London, in 1952 where it remains, albeit in much more palatial surroundings, to this day. The move to Cheltenham was not without its problems, mostly political but some logistical, and is documented by present-day GCHQ Historian, **Peter Freeman**, in his monograph “How GCHQ Came to Cheltenham”, a copy of which is available in the NCM Library. (See “Peter Freeman” on page 17.) ★

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## ADDRESS BY SIR ARTHUR

*Continued from page 12*

Sir Arthur shared the speakers' rostrum with Mrs. **Maureen Rodgers**. Now and for many years a Maryland resident, Maureen served at BP with the Women's Royal Naval Service [WRNS] known in Britain as 'wrens'. The Turing-Alexander 'bombers', electro-mechanical devices designed to speed up the breaking of the daily Enigma keys, were run almost exclusively by the WRNS operators and were most successful in the operations for which they were designed. Mrs. Rodgers answered questions on her life at BP and told of the occasions on which she encountered Alan Turing on the bus that ferried the BP denizens between the Park and their assigned 'digs' or accommodations.

An interesting and informative morning ended with Sir Arthur presenting Dr. Hatch with a framed photograph, taken about sixty years ago in the BP Library, of a most attractive young lady who appears to be engrossed in work of national importance...the photographer remains 'anonymous' but his subject is identified as the young woman who ultimately became Lady Bonsall... ★



*A Packed House*



*Maureen Rodgers  
& Dr. Hatch*

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## 2007 PROGRAM: THE WALKER CASE

The 2007 "Pearl Harbor Day" program, reviewing the infamous John Walker family espionage of US communications security cryptomaterials, featured FBI Special Agent **Gerald Richards**. Retired NSA Information Security official **Mike Jacobs** complemented his extremely interesting presentation with an NSA perspective on the intricate case. ★

## POLISH ENIGMA EXHIBIT OPENED AT THE NCM

In a low-key gesture of tribute, former NCM Curator **Jack Ingram** once hung a small framed Polish postage stamp, honoring a trio of Polish Army cryptologists who planted the seeds for Allied exploitation of the notorious ENIGMA cipher machine used by German forces. In December 1932, three Polish mathematicians, **Marian Rejewski**, **Henryk Zygalski**, and **Jerzy Rozycki**, accomplished an impressive cryptologic feat: Through mathematical analysis and months of hard work, they determined the wiring, "stepping" motion, and set-up of the German tactical level military cipher machine, ENIGMA, and solved a cipher system the Germans believed unbreakable. They designed a machine of their own, the "Bomba," to find the ENIGMA's daily key arrangement in a timely fashion. Thanks to the Polish mathematicians' intellectual and cryptanalytic skills, passed on to French and British –and later American-allies, ENIGMA-enciphered messages were broken and read by the Allies throughout much of WW II, allowing unprecedented insight into Germany's plans and capabilities.

In a dramatic demonstration of the changes since the removal of the Iron Curtain, on 11 December 2007, NSA Director LTG **Keith B. Alexander**, USA, joined by Polish Minister **Wojciech Flara**, Washington Chargé d'Affaires Ad Interim and Lieutenant Colonel **Pawel Lechowicz**, Deputy Head of the Foreign Intelligence Agency, unveiled a new Polish Enigma exhibit at the National Cryptologic Museum -- "Brilliance and Perseverance: Poland's Cryptanalysts and the German ENIGMA." It marked the 75th Anniversary of their pioneering work, so long unknown and underappreciated in light of publicity accorded since 1974 to British (and American) efforts, residual secrecy, and the hostile climate of the Cold War. ★

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## EAGLE ALLIANCE - TIM SHEAHAN MEMORIAL GOLF TOURNAMENT

The Sixth Annual Crypto Cup Golf Benefit was held at the Fort George G. Meade Golf Course on 22 June 2007. This year's event had special meaning, for the Eagle Alliance-sponsored event was renamed the **Tim Sheahan** Memorial Golf Tournament in memory of the former Vice President of Eagle Alliance. Tim, along with his colleague, **Frank Derwin**, is credited with the vision of holding an annual golf benefit to support the NCMF. To date, the tournament has contributed over \$200,000 to the Foundation, enabling us to purchase cryptologic artifacts and memorabilia for the Museum and supporting NCMF O&M costs. ★

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## A VIEW FROM THE TOP

For the first NCMF program of 2008, Gen Billy Bingham's Programs Committee was fortunate to secure Dr. **Donald M. Kerr**, Principal Deputy Director of National Intelligence. Dr. Kerr serves as second in command of the Office of the DNI, Mike McConnell. His PhD (Cornell) is in plasma physics and microwave electronics, and he served as Deputy Director for Science and Technology at CIA 2001-2005, when he was appointed Assistant to the Secretary of the Air Force and served as Director of the National Reconnaissance Office (NRO). He was nominated to his current position and received the unanimous consent of the Senate on 4 October 2007, just six months before his 3 April 2008 presentation to the NCMF and invited guests, held at the Booz Allen Hamilton Conference Center in the National Business Park across the Parkway from the NCM. His review of current issues facing the Intelligence Community was a rare privilege for his audience. Although unclassified, it might be considered "Ears Only," for no recording was permitted, nor was a transcript made available. "You had to have been there."

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## SCHORRECK MEMORIAL LECTURES INITIATED BY CCH

In memory of the late NSA Historian Emeritus, Henry F. Schorreck, the Center for Cryptologic History initiated an annual lecture by distinguished historians, and the Foundation provided its customary support to the event. Inaugurating the series, Dr. **David Kahn** (who, in addition to his accomplishments in studying and documenting cryptologic history, serves on the NCMF Board of Directors) spoke to a capacity audience on the subject, "The Future of the Past – Questions in Cryptologic History," in which he disclosed various questions to which he would like to see answers. (An edited version of his talk appeared in the international Taylor & Francis journal, *Cryptologia*, Vol. 32, Issue 1, January 2008, available in the NCM Library.) On 7 April 2008, Dr. **Christopher Andrews**, professor of modern and contemporary history at Cambridge University, and author of a number of books on the history of Intelligence, presented the second annual lecture. His subject was "British Intelligence, the American Alliance, and the End of the British Empire."

## NCMF COMMITTEES AT WORK

The NCMF Executive Committee, chaired by Gene Becker, is the mechanism that keeps us on the track between quarterly meetings of the Board of Directors. It reviews, coordinates (and occasionally goads or encourages) the work of the volunteer committees – Acquisitions (see next item), Facilities (**Frank Saus**), Finance & Accounting (**Bill Arrington**), Membership (now **Mike Green**), Programs (**Billy Bingham**), Public Affairs (now **John Garcia**), and Recognition (now **Sally Botsai**), plus NCMF Secretary **Kirsten Eland** serving as secretary and others, such as **Denny Eshoo**, recently retired President of The Phoenix Society and a Regional Director for the Armed Forces Communications and Electronics Association (AFCEA), now the NCMF liaison to The Phoenix Society and to an organization called the "Intelligence Community Association Network (ICAN)" (whose web site describes it as an informal mechanism to discuss issues, "deconflict" scheduling, etc., with "no organization, no officers, and no agenda for meetings," a rarity in Washington bureaucracy!) . Some of their work is seasonal or behind the scenes; some, such as Programs and Acquisition is or becomes more visible. The product of Programs is evident on these pages.

In compressed space, full justice cannot be done to the NCMF Acquisitions Committee, led by **Dave D'Auria**, with Dr. **David Hamer** as his Vice-Chairman, their recent accomplishments lightly touched upon in the NCMF Newsletter. Aggressively working through various venues to seek artifacts suitable for display or exhibit backdrop at the NCM, they are usually first to see (and handle) rare "finds" destined for future NCM exhibition. Guided by their own background, the suggestions of others, and the needs of the Museum Curator and staff, their actions lend themselves to "photo ops" in ways that other committees may envy. In future issues of *The Link* we hope to show examples of the people, the work and the results of Acquisitions and other activities. ★

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## POETIC DOCENT

Mary Faletto, NCMF

*On Mondays Hal performs his feats  
as tour groups sit on the edge of their seats.  
Gathering guests 'round with a wave of his hand,  
recalling stories of intrigue grand.  
Weekends find him non-stop too,  
mentoring a poets' workshop crew.  
Now it's our privilege here to tell  
the other hobbies at which he excels:*

In the summer of 1995, **Howell (Hal) McConnell** answered a call for National Cryptologic Museum (NCM) volunteers and has since spent every Monday serving as the NCM's most decorated docent. His only tangible reward is an annual service pin in recognition of his dedication to telling the cryptologic story.

Prior to his retirement from NSA, Hal devoted many years to education and training at the National Cryptologic School (NCS), where he worked with **Jack Ingram** and **Pete Sutton** in designing the school's Communications Security (COMSEC) curriculum. Prior to his assignment to the NCS, Hal was an information systems security analyst and also the curator of the Communications Security Museum in what is now the NSA Rowlett Building.

Currently, when not on duty at the NCM, he is also part of the Cold Case Squad of the Laurel, MD, Police Department and serves as Threat/Vulnerability Volunteer Consultant to the High Intensity Drug Trafficking Area for counter narcotics, organized crime and terrorism.

Before retiring from NSA, Hal published two books of poetry, *Flaming Mist* and *Poems of Presence*. In the mid-1960s Hal joined the Maryland State Poet Society and was published in "The Oriole" and a number of other society magazines. Recently the Barnes and Noble bookstore at Annapolis Harbor Mall recruited Hal for their Maryland Poet organization. He and other poets meet regularly at the bookstore to share verse and conduct student workshops. Two of Hal's favorite poems, published below, are tributes to the 2007 Virginia Tech tragedy and Boris Pasternak's *Dr. Zhivago*. The poignant tribute to Virginia Tech was penned immediately after the tragedy and Hal spent the following weeks giving public readings at local bookstores and churches. It was his way of healing.

*April 16, 2007*

*How could you not know -*

*The spear that pierced my heart  
Was first the innocent children murdered.  
And the mothers and fathers – spirit slain  
Of future love deprived of the children –  
Most cherished.*

*That I, who rose, who too was grave-bound  
Carry them – my special treasure to paradise  
And wait for you – beloved – to receive them  
In joyous reunion.*

\*\*\*

*Varykino*

*How could you in your exile  
Hold the night.  
White whirling gentle  
Into wall-high ice.  
How could you sleep  
The banded birches howling  
With the huddled wolves –  
Each aware of pleas,  
Yet fearing they only conceal  
Another loneliness.*

**Howell A. McConnell**

More recently Hal was recognized in an article about the museum featured in the 11 April 2008 edition of the *Washington Post*. Hal's expertise as a cryptologic storyteller contributed to the laudatory terms in which the reporter described the "Don't Miss!" cryptologic museum. ★

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## OTHER 2007 PROGRAMS & ACTIVITIES

On 15 March, **Kevin Powers**, former NSA Associate General Counsel for Operations, spoke on the history of FISA and how information acquired through authorized surveillance activities was used. Retired Bletchley Park mathematician (and distinguished professor) **Peter Hilton** recalled the wartime experience in a 10 May presentation, delivered with humor and sagacity.

The Foundation added its voice of support to the chorus of citizens and veteran groups pleading for the preservation of "Building 26," the wartime National Cash Register and U.S. Navy facility, now on the campus of the University of Dayton, Ohio, and scheduled to be razed. Then-Vice President **Gene Becker**, writing to President **Daniel Curran**, PhD, of the University of Dayton in March 2007, stressed the importance of the work done there in WW II (where the surviving Navy "bomb" now in the NCM was conceived) and the recent lifting of the secrecy concerning that vital effort, due in no small part to the research efforts that resulted in publication of *The Secret in Building 26: The Untold Story of America's ULTRA War Against the German U-boat ENIGMA Codes* (*The Link*, Vol. 9, No. 1). Our letter was graciously acknowledged, but plans were unchanged. The University will seek other ways of honoring those involved in the historic efforts centered in Building 26. ★

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## NOTED IN PASSING

*[The following account – illustrative of the range and diversity of interests of NSA employees – is based upon information forwarded by NCMF Director Ann Caracristi, who received it from George Chesnut's son:]*

### **George L. Chesnut** (1917-2007)

George Leoni Chesnut, Jr., 89, died April 20, 2007 in Arlington, Virginia after a very brief illness. George married Louise Garrison Woolfolk on January 19, 1952 in Washington, DC. He was a 66-year resident of the Washington-Arlington area.

George Chesnut was an accomplished linguist, translator, a devout student of Biblical Greek, a lifetime employee of the National Security Agency and a devoted husband and father. Over a lifetime of work, he translated more than 50 languages, ranging from ancient texts to modern.

George was born July 27, 1917 in Texas. He grew up in Dallas and attended the University of Texas. At age 19, he was awarded a master's degree in Spanish and German, and graduated Phi Beta Kappa after preparing a dissertation on the 20th century Spanish philosopher José Ortega y Gasset.

Mr. Chesnut pursued graduate studies in linguistics at the University of Chicago, with advanced studies at the University of Michigan. The outbreak of hostilities in Europe interrupted his studies. Prior to America's involvement in the conflict, he took a position with the Foreign Broadcast Information Service. Mr. Chesnut monitored German radio transmissions to South America in Portuguese and Spanish for FBIS. After America's entry into World War II, Mr. Chesnut served as an officer for US Naval Intelligence, putting his training and skills as a linguist to Allied service.

In the years following the war, Mr. Chesnut was employed at AFSA/NSA and taught courses in Spanish at The George Washington University. He was recalled to the US Navy at the outbreak of the Korean conflict and served in Okinawa, Formosa and Washington, DC in his specialty.

After the Korean War, Mr. Chesnut returned to NSA and worked there until retirement. For many years, his role was as a civilian director of the NSA's Analytic section. (A cherished memory of your editor is a luncheon meal with George, then a group technical staff officer, who commenced the conversation with the announcement that "I've have had it up to here [demonstrating with his hand] with paraphrastic

adverbs!" He cited, as an example, a cable just read: " 'We are *in the process of publishing...*' Why not simply say 'we are publishing...?'")

In retirement, he continued to work as a translator, linguist and consultant. His diverse projects included a Serbian dictionary, an Afghani Pashto, a French movie script, and Biblical texts in Dinka, the language of the southern Sudan. His passion for deciphering languages led him to explore and translate over 50 different languages. He delighted in even small projects such as translating children's poetry from Chinese to Spanish and English.

Mr. Chesnut returned to teaching in his later years. He conducted a seminar class in Koine (New Testament Greek) for churches in Northern Virginia. He served on the Episcopal Diocese of Virginia's Environmental Stewardship committee, reflecting his deep belief in man's need to serve as a good steward of the earth, God's creation.

### **Charles J. Denholm**

Maj. Gen. Charles J. Denholm, a U.S. Military Academy graduate (Class of 1938), World War II combat veteran (Sicily, Italy, Europe) and a former Commanding General of the Army Security Agency, died 28 December 2006 at his home in Alexandria, Virginia. He was 92.

Pittsburg native Denholm emerged from WW II with the Distinguished Service Cross, two Silver Stars, two Bronze Stars, and two Purple Hearts. In subsequent years he served in a variety of line and staff roles of increasing scope and responsibility. Firm, but fair, his command of the band of merry men known as the US Army Security Agency (ASA) may have required adjustment on the part of both. Perhaps with little knowledge and appreciation of his wartime role, they came to respect their commanding general, honor him (never to his face) with the soldier's epithet, "Charlie Two-Stars," and draw esprit from his leadership. To him, as commanding general, fell the duty of overseeing the integration of ASA into the successor US Army Intelligence and Security Command. In 1988, he was honored by induction into the Military Intelligence Hall of Fame at Fort Huachuca, Arizona.

A dedicated churchman, who practiced his faith, Gen. Denholm said little about his WW II experiences, even among his family. In the *Washington Post* obituary, his son recalled learning late in life of his father's "friendly fire" ordeal as a prisoner, trapped in the hold of an Italian freighter. The *Post* staffer wrote "His reticence was typical of his generation. In other respects, he was a pacifist, his son recalled. 'He couldn't stand being around guns.'"

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## NOTED IN PASSING

*Continued from Page 16*

### **Vera Ruth Filby**

Vera R. Filby, died at her home in Savage, MD, on 15 May 2007 at age 86. She had suffered from a stroke a few weeks earlier. One of the near-legendary figures of NSA, linking its present to England's WW II Bletchley Park, Mrs. Filby, widow of Bletchley Park veteran, historian and genealogist William "Bill" Filby, retired from the NSA in 1994, having served for over 30 years. In her final decade or more of active duty, she was a recognized authority and instructor in SIGINT reporting. In active retirement, she became one of the National Cryptologic Museum's first volunteers and an important resource to its Library. She (and Bill) was also a member and a big supporter of the National Cryptologic Museum Foundation. (On 10 January 2006, Gen. Morrison and Mary Faletto, representing the NCMF, paid a visit to Vera, presenting her with an arrangement of daisies, her favorite flower, and a stuffed "NSA bear" from the Museum Gift shop. Confined to her home and a wheel-chair, she remained mentally sharp and interested in the welfare of the NCM and its Library.)

There was no viewing or service. As planned, she was cremated: her and her husband's ashes were scattered over her garden.

(Memorial contributions in Vera's name were requested to go to the National Cryptologic Museum Foundation.)

### **Peter Freeman**

Peter Freeman, a retired GCHQ analyst and supervisor, who was engaged in writing GCHQ's history, passed away in late November 2006.

Peter joined GCHQ in 1963. He helped develop new techniques, and, over time, headed three GCHQ divisions. He has been described as having a "remarkable mastery of anything to do with radar and anything that flies -- be that aeroplanes, missiles or spacecraft."

He was recognized in the New Year's Honors List in 1997 with the award of a CMG (Companion of Most Distinguished Order of St. Michael and St. George). More recently, he served in staff support of the "Butler Inquiry," a committee charged by the British House of Commons to investigate pre-Iraqi War Intelligence and the question of Weapons of Mass Destruction.

In nominal retirement, Peter was very active in writing about and displaying cryptology's past. He was responsible for the displays of historical materials in the main hallway of the new GCHQ headquarters building in Cheltenham, England. He wrote classified histories and also a few public ones, such as on the cryptology of the Zimmermann Telegram

in WW I, and contributed to the international journal, *Cryptologia*.

It is believed that Peter had several tours at the agency in the UKLO office in the early 90's and in A Group in the late 60's and early 70's.

### **Mildred Louise Hayes**

On 23 September 2006, Mildred Louise Hayes, 78, passed away at her retirement home in Gulfport, MS. *Washington Post* staff writer Joe Hulley, in a 29 September 2006 obituary, wrote that Mrs. Hayes exemplified "the dozens of language teachers and professors, many of them young women, who were recruited by the U.S. Army's Signal Intelligence Service, forerunner to the NSA, to come to Washington and work as code breakers after the Japanese attack on Pearl Harbor." Born in Cisco, TX, and raised by relatives in Little Rock, AR, Mildred received a bachelor's degree in foreign languages from Arkansas State University in 1944. Her employment with the Army (and subsequently AFSA and NSA) was at Arlington Hall Station in Arlington, VA, and later at NSA, Fort George G. Meade, MD.

She became a member of the highly secret, tightly compartmented program set up in 1943 to study and eventually to exploit "unbreakable" Soviet diplomatic communications, later found to provide invaluable insight into Soviet espionage efforts against the United States. Agents prying into American atomic secrets, such as Klaus Fuchs and the Rosenbergs, Julius and Ethel (who were executed), as well as the mischief of British traitor Kim Philby, were unmasked through the broken code messages. With public fanfare in a 1995 announcement at CIA, the world learned of this effort as Project VENONA, fifteen years after it was terminated. With colleague Howard W. "Bill" Kulp, Mildred had been tasked in 1978 to study VENONA and determine whether further work on the old material would be worthwhile. After two years, and close consultation with primary customers, the FBI and CIA, they concluded that it would not. Mildred, having acquired a master's degree in Russian from The George Washington University in 1980, marked the termination of VENONA with her own retirement from government crypto-linguistic work.

### **Arthur J. Levenson**

With his death on August 11, 2007, at the age of 93, the cryptologic community lost one of its most treasured members, Arthur J. "Art" Levenson

Born in Brooklyn, New York, he held a BS in mathematics from the City College of New York, with graduate work in mathematics at New York University and Columbia. As a youth he excelled in track, and running

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## NOTED IN PASSING

*Continued from Page 17*

remained a principal interest in his life until injuries compelled him to stop in his late eighties. He loved all sports, and developed a lifelong love of music that always remained a great source of enjoyment and comfort to him.

With the start of World War II, the Army called Mr. Levenson to active duty from the Enlisted Reserve Corps. He would regale friends with stories of his adventures as a security guard at Arlington Hall Station, headquarters of the Signal Intelligence Service. He was approved for Signal Corps OCS at Fort Monmouth, and following graduation, was selected by Major William Bundy to be a member of the highly qualified group that joined the British wartime code breaking organization at Bletchley Park in Britain. There he worked against both the ENIGMA and TUNNY German cipher machines in the famous Hut 6. He became fast friends with many of the principal British cryptanalysts such as Alan Turing and Hugh Alexander, with whom he shared a lifelong love of chess.

While in Britain, he secured permission from his superior officer and good friend, Major Bundy, to marry the love of his life, Marjorie West, whom he had met at Arlington Hall and who had transferred to OSS and was stationed in London. Immediately after the conclusion of the war in Europe, Mr. Levenson was selected to be a part of an elite group of British and American officers sent to Germany to track down German cipher equipment and to locate and interrogate German cryptanalysts.

Returning to the U.S., he remained in cryptology as a civilian with the organizations that evolved by 1952 into the National Security Agency. He was a member and then Chief of the Technical Consultants group, the prestigious cryptanalytic organization where the most difficult problems were attacked. During that period he initiated the program for sending selected NSA mathematicians to participate in the recruitment of promising college math students -- a program that greatly enhanced the quality of the growing NSA professional work force. When the Office of Production in NSA was re-structured to better focus its attacks, he was selected to organize and serve as the first Chief of ADVA, the component dedicated to the exploitation of Soviet high-grade encryption systems. He led the design and implementation of the technical attack and took the lead in procuring high-level government support for the project from such influential experts as William O. Baker, head of the Bell Laboratories and longtime member of the President's Foreign Intelligence Advisory Board. Subsequently he became chief of A Group, the major NSA organization devoted to analyzing Soviet Bloc communications. Under his leadership A Group was refocused to enhance the timeliness of its SIGINT reporting to the intelligence community.

Before he retired in December 1973, Arthur served as Chief of the

Machine Processing Organization, responsible for the maintenance and operation of the large NSA facility which housed both commercial off-the-shelf computers and highly sophisticated special purpose machines. Bringing his own expertise to the job, he also saw the need to introduce into the computer management structure professionals from private industry and thus was one of those who opened up the organization to innovation from outside the close-knit cryptologic workforce. He retired with 32 years of Agency service, having also attained the rank of lieutenant colonel in the U.S. Army Reserves. He was a member of the Association of Former Intelligence Officers (AFIO) and the National Cryptologic Museum Foundation.

Mr. Levenson was a 1961 graduate of the National War College. He was awarded the NSA Exceptional Civilian Service Award in 1969. *[Account adopted from Phoenix Society release and Arlington Cemetery web site, per Noel Garland.]*

### **George P. McGinnis, 1919-2006**

Captain George P. McGinnis, USN Retired, died peacefully at home on 11 October 2006. Born in Texas, he lived in Los Angeles during his teens, and was graduated from the University of California, Santa Barbara, in 1942. Having joined the Naval Reserve prior to WW II, he was called to active duty as Ensign, USNR, upon graduation from college.

George served as a cryptologic officer during his entire 31-year naval career, with duty stations in Washington, D.C., Brazil, Japan, Okinawa and Turkey. He also served at Naval Security Group Headquarters in Washington, D.C.; National Security Agency Headquarters, Fort Meade, MD, and its National Cryptologic School; and with the Secretary of the Navy in Washington, D.C. He was Commanding Officer, Naval Technical Training Center, Corry Station, Pensacola, Florida, just prior to retirement in 1972.

He was a graduate of the Naval War College and did post graduate work at Harvard University, the Massachusetts Institute of Technology, and the University of West Florida. Throughout his life he was interested in electronics. He began building radio equipment at age 10 and was a licensed amateur radio operator from age 12. While still in his teens, George designed a radio control system for a model boat and wrote articles about it for technical publications. This system was used by the navy in the design of target drone aircraft during WW II.

After military retirement, he built his home in Gulf Breeze, FL, and volunteered many years in community service. George worked with the Naval Cryptologic Veterans Association and authored their published history. He

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## NOTED IN PASSING

*Continued from Page 18*

was instrumental in moving the Naval Cryptologic Museum from Nebraska Avenue, Washington, D.C., to the Center for Cryptology at Corry Station, and worked there at the "Command Display" of cryptology for several years.

At his request, there was no funeral or memorial service. His ashes were buried at Barrancas Military Cemetery, NAS, Pensacola, Florida. (*Adapted from a Phoenix Society announcement.*)

### **William C. Norris, 1911-2006**

William Charles Norris, one of the WW II Navy cryptographic veterans who started Engineering Research Associates (ERA) and went on to become a leader in the post-war computer industry, died on 21 August 2006. He continued through the successive mergers that involved Remington Rand, Sperry Rand, and Univac, to establish Control Data Corporation (CDC), with which he became best known.

### **David A. Wisyanski**

Retired Army Colonel David Anthony "Dave" Wisyanski, 77, of Crofton, Md, and previously of Natchez, Miss., died of hemochromatosis 24 July 2007 in Annapolis, after a lengthy illness.

Born June 14, 1930, in Pittsburgh, Pa., Dave Wisyanski received degrees from the University of Maryland (BA) and the University of Arizona (MBA).

He served in the Army from 1952 to 1980 including service with the National Security Agency at Arlington Hall Station and Fort Meade. He also was stationed in Okinawa, Germany, the Pentagon, South Korea and Nha Trang, Vietnam, during his time in service. While commander of the Army Field Station in Okinawa in 1977, his unit received the highly competitive interservice Travis Trophy. (Dave appeared with other former commanders, Bill Vernau and Walter Cressler, in a 1 July 2005 ceremony at which a check for \$5,000 for the NCMF Building Fund was presented by Bill Overholt. See "ASA OKI Lives!" in *The Link*, Vol.8, No. 2, Summer 2005, p. 3, for a photograph.)

Following his retirement, Wisyanski worked for various defense companies from 1983 to 1994, when he became owner of the Anthony Group. He also was a faculty member for three years at the University of Texas at Arlington College of Business Administration.

Burial was 20 August 2007 in Arlington National Cemetery. (*Adapted from The Capital, Annapolis, 26 July 2007.*) ★

## CRYPTOLOGISTS KILLED IN ACTION

During the period covered by this resume, three additional names were added to the Memorial Wall inside NSA. Fuller accounts can be found at the Agency's web site ([www.nsa.gov/memorial](http://www.nsa.gov/memorial)) but brief note must be added here:

Korean-born SSG **Kyu H. Chay**, USA, 1st Bn, 3rd Special Forces Group (Airborne). Killed in action in Afghanistan, 28 October 2006.

CTTI(SW) **Steven P. Daugherty**, USN, Deployed SEAL Team. Killed in action in Iraq, 6 July 2007.

SGT **Tristan L. Moretti**, USA, 425th Brigade Special Troop BN, 25th Division. Killed in action in Iraq, 27 June 2007, the second young female cryptologist to be lost in combat. ★

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## MEMORIAL REGISTRY

The following names of Honorees and their Sponsors have been entered into the NCMF Memorial Registry, where they may be found in alphabetical order for those desiring to locate a specific name in the book. (Past numbering was for administrative accounting only.)

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**NSA, NCM Colleagues,**  
**and brother, Herbert Weakliem**  
**Mr. & Mrs. Charles Girhard**  
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