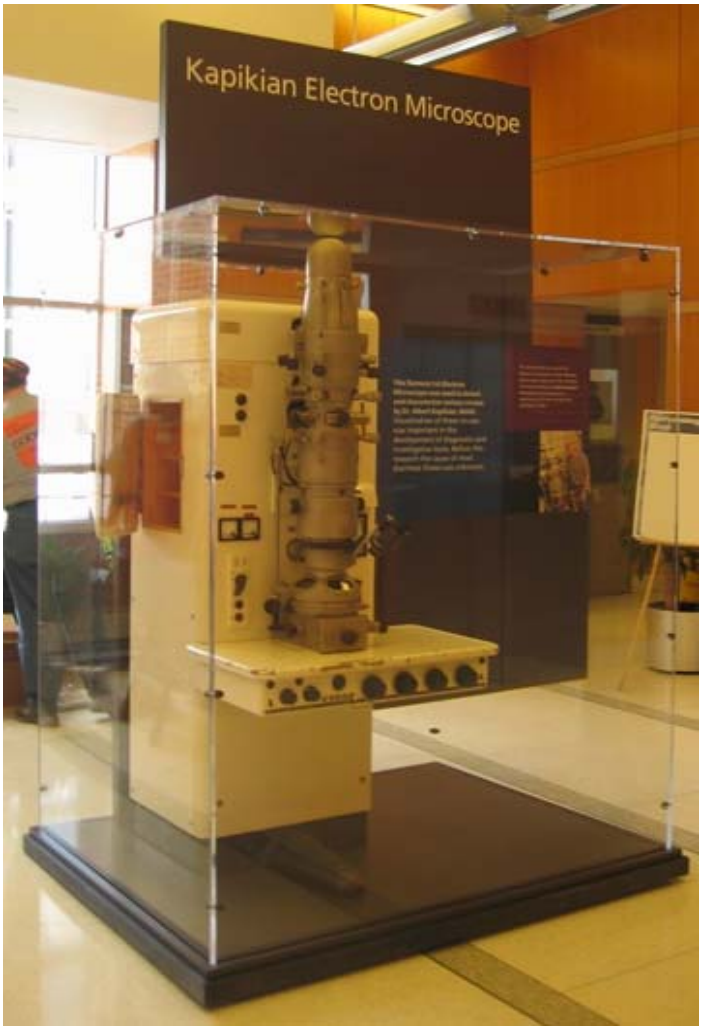

# *NIH History Highlights*

## Summer 2005




This Siemens 1-A Electron Microscope was used to detect and characterize the Norwalk virus, hepatitis A, and rotavirus by Dr. Albert Kapikian, NIAID. The microscope is now on display in the lobby of Building 50 (See p. 2).

**The National Institutes of Health**
**Department of Health & Human Services**

## Office of NIH History Staff

Victoria A. Harden, Ph.D., Director

Mary Alvarez, Program Assistant
Brooke Fox, Archivist
Caroline Hannaway, Ph.D., Historian & Editor
Roshni D. Lal, Exhibition Developer/Asst. Curator
Sarah A. Leavitt, Ph.D., Associate Historian
Michele Lyons, Curator
Buhm Soon Park, Ph.D., Associate Historian
Maya Ponte, Stetten Fellow
Leo B. Slater, Ph.D., Stetten Fellow
Claudia Wassmann, M.D., Ph.D., Stetten Fellow

## Contact Information

Office of NIH History
Office of Communications and Public Liaison
Building 31, Room 5B38, MSC 2092
National Institutes of Health
Bethesda, MD, 20892
Phone: (301) 496-6610, Fax: (301) 402-1434
web site: www.history.nih.gov
email: history@nih.gov

## Table of Contents

# From Cutting Edge to History in 40 Years

by Michele Lyons

Where do old scientific instruments go to die? Surplus, usually, or the dump. But some NIH equipment gets a new life as part of the collection of the Stetten Museum. This spring, NIH staff and visitors will be re-introduced to two large 1960s-era instruments through exhibits in the lobbies of the Natcher Conference Center (Building 45) and Building 50.

The **Varian A-60 NMR** spectrometer, though now out of commission, was once an exciting tool that led scientists in new directions. The first low-cost user-friendly instrument of its kind, the A-60 became a standard laboratory tool in the 1960s and was central to much research at NIH.

A related instrument, the magnetic resonance imaging (MRI) machine, reveals the body's anatomical and functional structure and is employed by NIH scientists to study topics such as cancer and aging. For example, Dr. Jay Giedd (NIMH) has used MRI to study how the brain develops as children grow. By following a group of children over time, he has discovered that the brain does not mature as quickly as was once thought. Instead, it continues to prune unnecessary connections between cells until the early 20s. His work provides insight into normal teen behavior, mental illnesses, and disorders such as autism.

NMR is now being used to study the structure of large proteins by NIH's Dr. Adriaan Bax (NIDDK) and others. The researchers are investigating how proteins function and how they can cause disease, information which can be used in drug development. For viewers who might not be familiar with the inner workings of the instrument, the exhibit features a cut-away in the back of the machine. Included also are examples of images of three-dimensional structures of proteins developed with NMR.

(Above) The Varian A-60 was advertised in trade manuals in 1960, and would have looked like this upon arrival at NIH. The A-60 on exhibit in Building 45 was donated to the Stetten Museum by Dr. Richard Miller, State University of New York, Cortland.

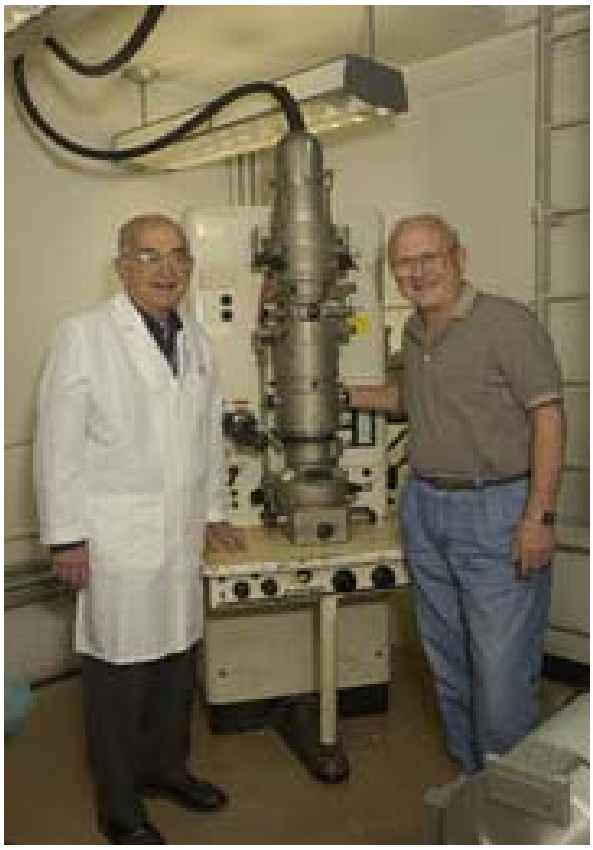
The **Siemens 1-A Electron Microscope** now on display in Building 50 was once used in an active laboratory setting at NIH. In the mid-1960s, this microscope was carefully lowered into the sub-basement of Building 7. To use the microscope, scientists and technicians had to descend a steep spiral staircase and slip through a revolving dark room door. The instrument was in use for more than three decades. Repaired during its entire active lifetime by Siemer Siems, the instrument was used to study thousands of specimens. In 2002, however, the machine was made obsolete by more modern instruments and was hauled out of Building 7 and donated to the NIH Stetten Museum.

In the instrument's heyday in the early 1970s, scientists used it to identify and visualize viruses. For example, Dr. Albert Kapikian (NIAID) and his colleagues used the instrument to discover Norwalk virus particles the size of about a millionth of an inch, which could not otherwise be seen. Kapikian's laboratory linked a specific virus to a diarrheal illness for the first time, because the scientists were able to compare serum specimens under the electron microscope.

Drs. Stephen Feinstone, Kapikian, and Robert Purcell used this microscope to discover hepatitis virus particles in 1973. Along with Dr. Harvey Alter and others, they studied specimens from patients who had developed hepatitis from transfusions. The team discovered the presence of a different hepatitis virus, which they called "nonA-nonB"–now known as hepatitis C. In 1974, Kapikian and his colleagues visualized the human rotavirus, which had been discovered in Australia. Rotavirus causes up to half a million deaths each year in infants and children, predominantly in developing countries.

The instrument now sits in the lobby of Building 50, reminding staff and visitors of a time when little was known about human viruses. The exhibit includes images of viruses as seen through the electron microscope.

Many thanks to Dr. Edward Becker, Bernard Howder, and Rolf Tschudin for their help in preparing the NMR exhibit and Dr. Albert Kapikian for his help with the electron microscope exhibit.



Dr. Kapikian (left) and Siemer Siems posed by the microscope before it was dismantled and moved out of Building 7. Mr. Siems repaired the microscope during its three decades of use at NIH.

## *SPRING BRHIG SEMINARS*

The Office of NIH History sponsors a monthly seminar series, the Biomedical Research History Interest Group (BRHIG). This spring the speakers included:

Angela Matysiak, George Washington University, "Albert Sabin and the Role of the Public Health Service in the Development and Testing of the Oral Polio Vaccine, 1954-1962" (8 March 2005)

Suzanne White Junod, Ph.D., FDA Historian, "The Winter of FDA's Discontent: The Woes of a 21st Century Regulatory Agency" (12 April 2005)

Edwin Becker, Ph.D., NIH, "Spins, Magnets and Chemicals: The Evolution of Nuclear Magnetic Resonance and MRI" (24 May 2005)

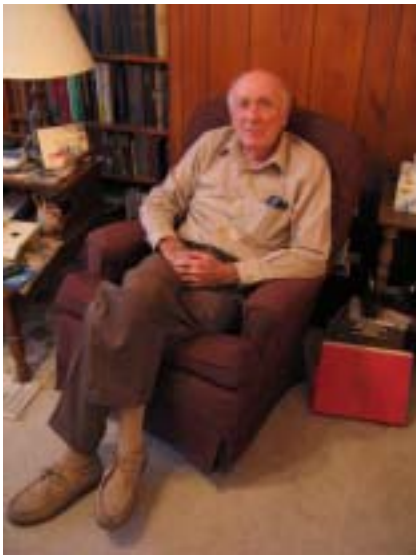
Albert Z. Kapikian, M.D., NIH, "The Electron Microscope as an Epidemiological Tool" (28 June 2005)

For more information call (**301) 496-6610** or go to **www.history.nih.gov** and click on "BRHIG."

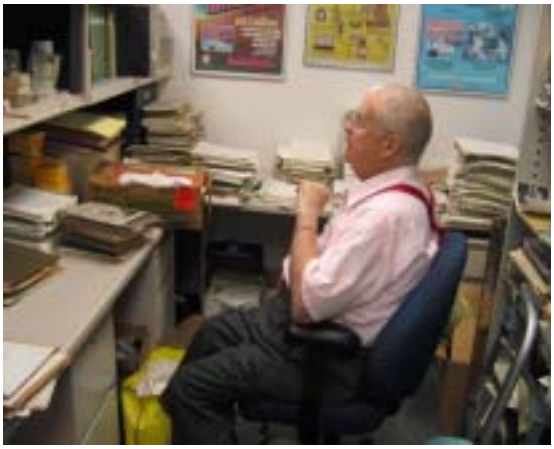
# Research Notes

In the course of his Stetten Fellowship research project on the history of malaria research at NIAID, Dr. Leo Slater interviewed two eminent malariologists, Drs. William E. Collins and Geoffrey M. Jeffery.

Early in their careers, Collins and Jeffery worked with prominent NIAID researcher Dr. G. Robert Coatney, who participated in the U.S. antimalarial program during World War II and served as chief of the Laboratory of Parasite Chemotherapy. They were also colleagues of Dr. Martin Young, who was director of one of the NIH/USPHS field stations (Columbia, SC) from 1937 to 1961, and later served as associate director of NIAID. Oral histories with these scientists will illuminate the work of several important researchers and their laboratories.



Dr. Jeffery (above) and Dr. Collins (below, among his historical collection of malaria papers and posters), January 2005.



Dr. Collins, currently a Research Biologist at CDC, worked for NIAID from 1959 to 1974. Collins worked first with Dr. Young at the NIH/NIAID field station in Columbia, SC, before moving to Georgia to work with the Laboratory of Parasite Chemotherapy's malaria program at the Atlanta Federal Penitentiary. This was one of Dr. Coatney's several programs in human and simian malaria. Dr. Collins is the 1985 recipient of the prestigious Joseph A. LePrince Medal, awarded by the American Society of Tropical Medicine and Hygiene (ASTMH) in recognition of outstanding work in the field of malaria research. Collins shares this distinction with other NIAID scientists including Drs. Coatney, Young, and Louis Miller.

Dr. Jeffery, now retired, worked at both the Milledgeville, GA, and Columbia, SC, field stations. In Georgia and South Carolina, he collaborated with state health officials who were treating neurosyphilis with malaria therapy and conducted research on human malaria. His oral history helped put a human face on these experiments. As Dr. Jeffery said: "If one is looking at the natural history of a disease it's nice to know exactly what you inoculate, when you inoculate it, and follow the patient daily with the blood films, which are the indications of a malaria infection. Follow their clinical history hourly during the time they have an acute infection…. You find out when the patient is infective to mosquitoes, how long it takes for the infection to develop in those mosquitoes, and which mosquitoes are best and which are possible and which are not going to be infected…. Then you can build on top of that: the testing of various and sundry drugs given in various and sundry regimens and dosages."

Dr. Jeffery later moved to Bethesda where he held a number of senior administrative positions at NIAID, including chief of the Laboratory of Parasite Chemotherapy, following Dr. Coatney's retirement. In 1969, Dr. Jeffery retired from the Commissioned Corps of the USPHS and the NIH and moved on to work for CDC in El Salvador and Atlanta. Dr. Jeffery received the ASTMH's Bailey K. Ashford Medal for distinguished work in tropical medicine, a distinction he shares with NIH's Drs. Norman E. Topping, Franklin A. Neva, and Thomas E. Wellems.

In recent years, Drs. Collins and Jeffery have mined old data from the NIH/NIAID field stations and published a number of retrospective papers on the clinical course of malaria and the development of immunity. As Dr. Collins

(Research Notes, Con't)

said: "We had thought that it would be valuable to keep these old records mainly because when the vaccines come along we want to predict what will happen…. Now we think that anytime someone wants to ask a question from these data, we have an obligation to go back and look and see if we can find the answer."

Dr. Slater's work on the history of malaria research at NIAID and its predecessor organizations will utilize the oral histories to place the research in its historical context, and bring NIAID scientific and clinical accomplishments to a wider audience. He plans to deliver a lecture based on the information gleaned from the oral histories and his archival research in August 2005.

### *CONFERENCE ANNOUNCEMENT*

The Office of NIH History is sponsoring a major conference on **"Biomedicine in the Twentieth Century: Practices, Policies, and Politics."**

It will be held in the Lister Hill Auditorium on the NIH campus on **December 5-6, 2005**. The keynote speaker will be evolutionary geneticist and social critic Richard C. Lewontin, Alexander Agassiz Research Professor at Harvard University.

Other speakers include: Warwick Anderson, Stuart Blume, David Cantor, Angela Creager, Bernardino Fantini, Gerald Grob, J. Rogers Hollingsworth, Daniel Kevles, Susan Lederer, Buhm Soon Park, Guenter Risse, Leo Slater, Darwin Stapleton, Carsten Timmermann, and Keith Wailoo. The NIH community and the public are invited. Please mark the dates on your calendars. More information about the conference will be forthcoming. Questions should be addressed to Caroline Hannaway, conference organizer, at channaway@aol.com.

### *NIH HISTORY DAY 2005*

The third annual NIH History Day will be held on 22 September 2005.

Kicking off a year commemorating the 25th anniversary of the first publication on HIV/AIDS, NIH Historian Dr. Victoria A. Harden will speak about the NIH response to the epidemic in the early 1980s. Panels from the AIDS quilt will be hung at the Clinical Research Center in September.

Harden's illustrated lecture, entitled: "**'An Indescribable Experience': NIH Researchers and the AIDS Epidemic, 1981-1990,**" will be delivered at 11:00am in the Lipsett Amphitheater in Building 10.

## History in the Halls

For years, the oil paintings on the walls in Building 1's corridors have hung in the background as visiting members of Congress, scientists, and administrators walked between offices and conference rooms in the 1930s-era building. If the visitors and staff members bothered to look up, they would have noticed stately portraits of men and one woman, all former NIH Directors and early scientists. If they wondered who was pictured in these paintings, they would not have had much help from the plaques affixed to the formal frames.

But that is about to change. The Office of NIH History plans to install new labels for each portrait later this year. The new labels will provide information about the important contributions of former scientists and directors. The Office of NIH History hopes that these new labels will not only familiarize staff and dignitaries with the work and history of the NIH, but will also encourage people to seek out further information through the Office's resources.

# A History of the NIH Logo

by Victoria A. Harden

As we drive down the highway, we see a huge yellow neon "M" and immediately recognize the "golden arches," the internationally-known logo for McDonald's restaurants. Such types of visual identification have become pervasive, even in the Federal government. The NIH has used three logos since 1969, but what do they mean? Why were these logos adopted?


Before 1969, NIH did not have a logo. Rather, NIH was viewed as the "laboratory arm" of the U.S. Public Health Service (PHS) and NIH publications used the PHS seal or the logos of the Department of Health, Education, and Welfare (the predecessor to the Department of Health and Human Services). In 1965, however, the President's NIH Study Committee strongly urged increased NIH communications with the public. The development of an NIH logo was one of the first steps taken to implement that study. In 1969, George Mannina of the Office of Information worked with artist Charlie Shinn of the NIH Medical Arts and Photography Branch to develop the first NIH logo. The result was a triangle with rounded sides and the initials "NIH" in the center (above). The meanings of the three sides varied, with some seeing "research, treatment and education," and others the trilogy of "searching, serving, and teaching."


In 1976, work began on a new logo to update the triangle and develop a symbol that could be recognized all over the world. The first proposal was a concentric triangle with rounded vertices and straight sides, but NIH Director Dr. Donald Fredrickson wanted it altered to indicate NIH's relationship with grantees and other health institutions. By leaving the ends of the triangle open, the completed logo demonstrated NIH's "openness to the outside" as well as invoking " the glassware that is used in NIH laboratories."

The new logo (below, center) could be used with or without the words "National Institutes of Health." Its component parts could be rendered in different colors, for example in silver, blue, and red to commemorate the American bicentennial in 1976.

NIH has had one additional logo, which was used during its 1986-1987 centennial observance. This logo was chosen in a contest in which "384 individuals submitted 1,354 highly creative entries," according to an *NIH Record* account. Sherry Meyers, a Clinical Center psychiatric nurse, won the $500 prize with a design that featured the number 100 with a microscope set in interlocked zeros and the words "National Institutes of Health, 1997-1987" surrounding the image (above).


As Ron Winterrowd of NIH's Medical Arts and Photography knows, "Logos are powerful. A good logo is an image on a sign that registers in your mind while you're driving down the highway at 70 miles per hour."

Special thanks to Marc Stern, Ron Winterrowd, and Clifford F. Johnson for their help in reconstructing this history.

# New Stetten Fellow

Claudia Wassmann joined the Office of NIH History in January 2005. She came to NIH from the University of Chicago, where she earned her Ph.D. in History. She also holds an M.D. from the Free University of Berlin. She has produced award-winning science documentaries on brain research for German Public Television, and will be working with the National Institute of Biomedical Imaging and Bioengineering (NIBIB) to study the history of brain imaging and emotion research at the NIH. Part of her project will be to contribute an online exhibit on "Imaging the Brain" to the Office of NIH History's web site.

Wassmann's work with NIBIB follows a research project she previously conducted on the history of emotion research in the life sciences at the end of the nineteenth century. During the 1880s, physicians in several European countries began measuring emotions in terms of physiological changes in heart rate, respiration frequency, and blood pressure. Furthermore, they were interested in measuring differences between emotionally versus cognitively challenging tasks in terms of changes in cerebral blood flow. However, their techniques to study these changes were quite crude. Then, as now, research on emotion was taken to a different level by the improvement of techniques of visualization that allowed for the tracing of emotions in terms of bodily changes, and by photographic representations of emotional expressions.

The use of visual stimuli in order to elicit emotions in experimental settings was pioneered in the nineteenth century. But only in the twentieth century did techniques become available to image the living human brain and study emotional information processing in terms of functional brain activity. Neuropsychological questions asked by scientists at the NIH had an important impact on the evolution of brain imaging technologies such as PET and MRI that are now being used by an ever-growing community of scientists and physicians.

The conceptualization of emotion underwent a change from the moment when emotions were taken out of a moral and religious discourse and introduced into a scientific discourse—not as pathological entities but as the basis for cognition and generative principle of mental development. The field went out of fashion in the early twentieth century giving way to behaviorism and psychoanalysis as leading paradigms.

This history, to be bolstered by Wassmann's oral histories with NIH scientists, investigates how brain-imaging technologies revolutionized the study of emotion, allowing scientists to address questions of the interplay between emotion and cognition, brain and body, and emotion and mental health in radically new ways, thereby generating a major shift in attitude toward emotion. During the last decade of the twentieth century, emotion studies have become one of the most vibrant fields in biomedical research, cognitive psychology, and social neuroscience. While emotions were previously regarded as "irrational," scientists now accord them a central role in rational decision-making.

This shift in attitude toward emotion became possible mainly through the development of new technologies to study the brain, such as PET and fMRI, large array electro-physiological techniques (MEG) together with graphics-enabled computers. With these new research tools in hand, scientists from various disciplines pooled forces in transdisciplinary research projects, often funded by NIH grants, bridging explanatory gaps between neural, physiological and behavioral aspects of emotion. Besides the study of emotion in healthy individuals, arguably the most important and innovative approaches that integrate experimental data obtained with several measuring techniques took place in research on psychopathology, such as anxiety disorders and depression. As neuroimaging technologies seemed to fulfill the age-old dream to measure emotions quantitatively, a genuine science of emotion emerged, and the NIH was central in creating it. Yet, the history of the creation of the science of emotion remains to be told. In order to write this history, Wassmann will combine literature study with oral history interviews with scientists and focus on the material culture of science.

# Clinical Center Collecting Project

by Michele Lyons

In anticipation of the Clinical Center (CC)'s move to the new Clinical Research Center (CRC), the Office of NIH History began working with Sara Byars' Office of Clinical Center Communications to organize a collecting project for historically important material. The project included meeting with the renovation contacts and CC scientific directors, working with helpful CC staff members, and making sure that every CC staff person received a poster describing the scope of the collecting project before offices were cleaned out and important items discarded.

Now that the CRC is open and many of the moves within the CC have taken place, we would like to thank the many people who helped save objects, documents, and photographs. As always, the Office of NIH History will continue to assess and accept donations of historical objects, including instruments, trade catalogs, and manuals from CC staff and the broader NIH.

Below is a list of items collected from the CC during the project:

Archives

1. Four blood bank log books from the NIH Blood Bank, 1953-1960. Donated by Dr. Harvey G. Klein, Department of Transfusion Medicine, CC.

2. Taber's Medical Dictionary for Nurses (1905). Donated by Debra A. Byram, Office of the Director, CC.

3. Five posters. Donated by Dr. David Henderson, Deputy Director of Clinical Care, CC.

4. Several hundred photographs of the CC Nutrition Department, 1953-present. Donated by Monique Ladner, Nutrition Department, CC.

(Above and Below) These pictures were among the several hundred images donated by the CC Nutrition Department. They help document the Laminar Flow Kitchen, which was established in the early 1980s to prepare sterile food. Patients receiving certain treatments, such as high dose chemotherapy, had to be isolated in laminar flow rooms to prevent infection. These rooms had a negative airflow to keep bacteria out. While in the isolation units, patients received specially prepared and wrapped food. Denise B. Ford (Clinical Research Dietician) helped to develop the procedures documented in these slides to keep the patients' food sterile. Pictured here are (above) Ida L. Bailey and (below) Janice Barnes.

5. Two boxes of videotapes of Centernet/Grand Rounds dating from 1995. Donated by Deborah Fatula, Office of Communications, CC.

6. Boxes of documents. Donated by Susan Harris, Clinical Research Information System Section, CC.

7. Thirteen videos. Donated by Margaret Conant, Positron Tomography Department, CC.

8. Slides of the Laminar Flow Kitchen and Nutrition Department publications. Donated by Nancy Sebring, Nutrition Department, CC.

Museum objects

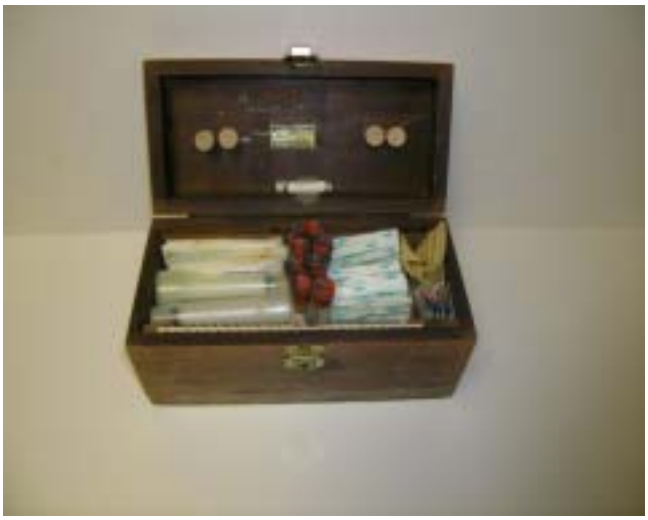
1. Wilmot Castle Sterilizer, donated by Michael Lanouette, Facilities Operation Branch, ORF.

2. Tea cup and Saucer, donated by Karen Baker, Pain and Palliative Care, CC.

3. Food models and measurers, donated by Nancy Sebring, Nutrition Department, CC.

4. Graph recording paper, OD gas chromatography columns, Gilson pipetman, donated by Dale Kiesewetter, Intramural Science Program, NIBIB.

5. Several items from the Department of Rehabilitation Medicine, including speech and swallowing therapy equipment, close-up camera, donated by Dr. Lynn Gerber, Rehabilitation Medicine Department, CC.



6. Dr. Harvey Alter's homemade phlebotomy kit, donated by Dr. Deloris Koziol, Office of the Deputy Director of Clinical Care, CC.

7. NIH BEIB Limb volume measurer, donated by Cynthia Helsabeck, Surgery Branch, NCI.

8. Various items from the Department of Social Work including label pins and a lunch bag, donated by Dale Boggs, Department of Social Work, CC (retired).

If you have items that you wish to donate, please call Brooke Fox (archivist) 301-451-4344, foxbro@mail.nih.gov, or Michele Lyons (museum curator) 301-496-7695, lyonsm@mail.nih.gov.

*NIH History Highlights* is published twice each year. Past copies are available at: http://history.nih.gov/about/index.html.

To subscribe: send an email with "subscribe" as the subject to: leavitts@mail.nih.gov

Sarah A. Leavitt, Ph.D., Editor

# Thank You!

The Office of NIH Historyis pleased to announce the donation of materials listed below, in addition to the Clinical Center items noted on page 9. These items were donated by NIH employees and retirees and we would like to recognize their generosity and thank them for helping to preserve NIH history:

1. Twenty-six volumes of the "Public Health Service Grants and Awards by the National Institutes of Health," 1948-1963. Donated by Janet N. George, NHLBI.

2. Two cartons of files from the Intramural AIDS Targeted Antiviral Program (IATAP), 1987-2000. Donated by Deloris Mills, OD/OIR.

3. Photographs and publications from the Fogarty International Center. Donated by John Makulowich, FIC.

4. The entire E-Clips digital archives. Donated by Julie Morton, OD/OCPL.

5. 1975 NIH Organization Chart (available online at history.nih.gov/articles/NIH/orgCharts.pdf) prepared for the first NIH Alumni Reunion, April 1975. Donated anonymously.

Analgesics Section, Laboratory of Chemistry, NIAMD, c. 1958
Seated, left to right: Theodore Perrine, Ethel Louise Atwell, Wendy Ness, (unknown), Joseph Cochin.
Standing, left to right: Joseph Ayer, James Murphy, Everette LiMay, Nathan Eddie, Lewis Sargent, Edward Fry.

6. Photograph of the Analgesics Section, Laboratory of Chemistry, NIAMD, circa 1958. Donated by Dr. Kenner Rice, NIDDK (below, left).

7. 1983 NIH Organization Handbook. Donated by Melissa Mejia, OD/ORS.

8. One carton of files collected by Dr. John Sherman during his tenure as Deputy Director, NIH.

## *2005-2006 STETTEN FELLOW*

The 2005-2006 Stetten Fellowship has been awarded to **Lisa Walker**. Walker earned her Ph.D. at the University of California at Berkeley and since then has worked as a consultant and under contract for various historical offices including the Office of Global Health Affairs at the Department of Health and Human Services.

Her research has focused on the United States-Soviet collaboration in the fight against polio. While at NIH she plans to conduct oral histories with scientists who traveled to the Soviet Union in 1961 to meet with Soviet virologists and epidemiologists. The so-called "medical diplomacy" of this period related to the oral polio vaccine "ultimately made possible the achievement of widespread immunity against polio and made eradication of poliomyelitis feasible on a global scale," according to Walker's description of her proposed research.

Her study will illuminate the role of NIAID scientists from the Laboratory of Infectious Disease in this collaboration. Walker will arrive at the Office of NIH History in August of 2005 to begin her year-long fellowship.