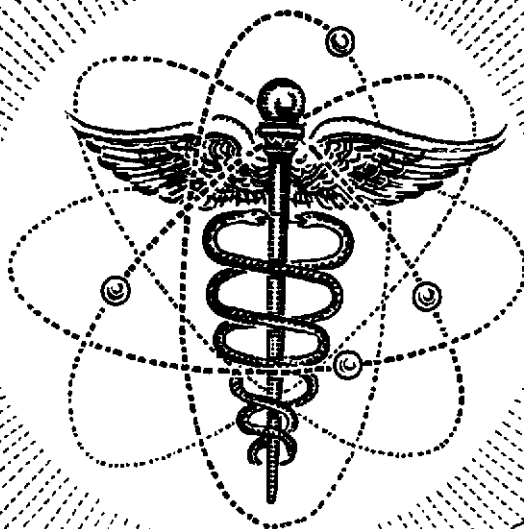


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HRE-175



NWMS-9

3-7 October

1960

ARMED FORCES MEDICAL SYMPOSIUM

Presented at

FIELD COMMAND

**DEFENSE ATOMIC SUPPORT AGENCY
Sandia Base, Albuquerque, New Mexico**

HPE-175

HEADQUARTERS SANDIA BASE
ALBUQUERQUE, NEW MEXICO

7 October 1960

This is to certify that during the TDY period at this station, Government Quarters were available and Government Messing facilities were not available for the following members of NWMS-9:

Colonel	Adams, Oscar H.	USA
Major	Anderson, Claude T.	USAF
Lt. Colonel	Anderson, George R.	USAF
Doctor	Andrews, Gould R.	
Doctor	Andrews, Howard L.	USPHS
Colonel	Ashill, Stephen G.	USA
Colonel	Ayars, Laurence S.	USAF
Lt. Colonel	Baczewski, Zbigniew J.	USAF
Lt. Colonel	Banning, George S., Jr.	USAF
Major	Barlow, Lundie W., Jr.	USAFNG
Commander	Bell, William E.	USPHS
Major	Bentley, Jack C.	USAF
Colonel	Bess, Geroge C.,	USAF
Doctor	Bethard, W. F.	
Lt. Colonel	Beyer, David H.	USAF
Major	Bittick, Paul, Jr.	USAF
Colonel	Borah, William N.	USAF
Captain	Bowerman, Walter M.	USAF
Commander	Bowers, Jesse A.	USN
Captain	Brown, Benjamin H.	USAF
Captain	Bunstock, William H.	USAF
Colonel	Campbell, Paul A.	USAF
Colonel	Caples, Joseph T.	USA
Colonel	Collins, Glenn J.	USA
Doctor	Collins, Vincent P.	
Lt. Colonel	Connor, Joseph A.	USAF
Captain	Curtis, Sidney H.	USAF
Lt. Colonel	Dauer, Maxwell	USA
Colonel	Davis, Paul W.	USAF
Captain	Deranian, Paul	USN
Doctor	Dille, J. Robert	
Captain	Duffner, Gerald J.	USN
Doctor	Duguid, Robert H.	
Captain	Early, Warren L.	USAF
Captain	Enders, Lawrence J.	USAF
Colonel	Espey, James G., Jr.	USAF
Lt.	Farber, Sheldon	USNR
Captain	Farmer, C. D.	USAF
Major	Fitzpatrick, Jack C.	USA
Colonel	Fixott, Richard S.	USAF
Colonel	Flinter, Marcus H.	USA
Major	Frayse, Louis A, III	USAF
Captain	Freckleton, Frank R.	USPHS
Captain	Funk, John W.	USAF
Doctor	Gardiner, Donald M	USAEC

Messing and Quarters Certificate (Continued)

7 October 1960

Lt. Commander	Garman, Thomas A.	USN
Captain	Gerlach, William E.	USAFNG
Colonel	Glass, Albert J.	USA
Lt. Colonel	Goldstein, Joseph D.	USA
Colonel	Graham, Wistar L.	USAF
Colonel	Gray, James K.	USAF
Colonel	Greenberg, Milton	USAF
Major	Hall, Charles C.	USAFNG
Colonel	Hammond, James H.	USAF
Lt. Colonel	Hansen, Carl L.	USAF
Colonel	Hardaway, Robert M.	USA
Colonel	Harrell, Henry C.	USA
Colonel	Harris, John F.	USA
Doctor	Harris, Payne S.	
Colonel	Hekhuis, Gerrit L.	USAF
Colonel	Henry, Joseph R.	USAF
Major	Hibben, Herbert A.	USAF
Captain	Hicks, Paul J.	USAFR
Lt. Colonel	Hill, Arthur W.	USA
Colonel	Hoey, Patrick H.	USAF
Captain	Holloway, Charles K., Jr.	USN
Doctor	Jacobus, David P.	
Colonel	Jennings, William E.	USA
Doctor	Jenson, Carl	
Doctor	Kelly, Francis J.	
Brigadier General	Kidder, James H.	USAR
Major	Kent, James R.	USAF
Lt.	Klein, Edward W.	USN
Colonel	Knauf, George M.	USAF
Doctor	Kniseley, Ralph	
Colonel	Kojac, George H.	USAF
Colonel	La Fon, William F.	USAF
Doctor	Langham, Wright H.	
Colonel	Leaver, Frank Y.	USA
Doctor	Leland, Stanley	
Captain	Lewis, George O.	USAF
Major	Lynch, Charles L.	USA
Lt. Colonel (Reserve)	McDonnel, Gerald M.	
Lt. Commander	McCord, Don L.	USN
Captain	Mackenzie, Vernon G.	USPHS
Captain	Mackinnon, Donald G.	USN
Captain	Mayhew, Clifford L.	USAF
Colonel (Retired)	Maupin, Clinton S.	
Doctor	Meisinger, R. W.	USAEC
Captain	Mendelson, Irving,	USA
	Meyer, Dean D.	
Colonel	Miller, Hubert W.	USA
Captain	Minnors, Howard A.	USAF
Commander	Moeller, Dade W.	USPHS
Lt. Colonel	Moncrief, Jr.	USA
Captain	Moore, James T.	USAF
Lt. Colonel	Morrissey, Robert W.	USAF
Major	Morse, Mary F.	USA

Messing and Quarters Certificate (Continued)

7 October 1960

Major	Neely, Samuel E.	USAF
Commander	Nelson, Clifford E.	USPHS
Colonel	Pappas, James P.	USA
Colonel	Pease, Phillip P.	USAF
Captain	Perkins, David E.	USAF
Doctor	Phillips, James A.	
Lt. Colonel	Phillips, Richard J.	USA
Lt.	Porte, Daniel, Jr.	USN
Captain	Powell, Clinton G.	USPHS
Major	Powell, George W.	USAF
Colonel	Power, William R.	USAFR
Colonel	Rapalski, Adam J.	USA
Doctor	Ross, Douglas A.	
Lt. Colonel	Ross, Richard H.	USA
Doctor	Saenger, Eugene L.	
Captain	Sawyer, Charles H.	USAF
Lt. Colonel	Schmidt, Robert B.	USA
Captain	Shaw, H. E.	USA
Colonel	Shipley, Wayne D.	USA
Rear Admiral	Smith, Clarence A.	USPHS
Colonel	Smith, William S.	USA
Lt. Colonel	Stacy, Harold G.	USA
Captain	Steele, James H.	USPHS
Colonel	Strode, John T. B.	USA
Major	Swearingen, Alfred G.	USAF
Captain	Smith, Jerome F.	USN
Major	Taylor, Ellis R.	USAF
Lt. Commander	Telles, Norman C.	USPHS
Lt. Colonel	Thompson, William W.	USAF
Lt. Colonel	Troxell, John E.	USAF
Captain	Turner, Roderick H.	USAF
Colonel	Vogel, Edward H., Jr.	USA
	Ward, Albert Neal	
Major	Warren, Willard R.	USA
Captain	Wamsley, James R.	USAF
Lt. Colonel	Martella, Stephen, Jr.	USAF
Lt. Commander	Watkins, T. K.	USN
Major	Wells, John C., Jr.	USAF
Colonel	Wentworth, John W.	USAFR
Colonel	Westbrook, William H.	USAF
Lt. Colonel	Whitehouse, W. C., Jr.	USAF
Lt. Colonel	Wiemer, Robert A.	USAF
Captain	Wilson, Charles L.	USAF
Colonel	Wilson, Leonard F.	USA
Lt. Colonel	Wiscarson, John W.	USA
Major	Woltjen, Myron J.	USAF
Doctor	Zanolli, G. F.	

FOR THE COMMANDER:

(3)

William S. McCutcheon

WILLIAM S. MC CUTCHEON

Major Inf

Assistant Adjutant

MEDICAL SYMPOSIUM NWMS-9¹

ATTENDEES

3-7 October 1960

ADAMS, Oscar H., Lt Col, MSC, USA
Army Environmental Laboratory
Chemical Corp and Chemical Material
Command
Maryland

ANDERSON, Claude T., Maj, MC, USAF
Headquarters
United States Air Force Academy
Colorado

ANDERSON, George R., Lt Col, MC, USAF
Headquarters, Strategic Air Command
Offutt Air Force Base, Nebraska

ARMOUR, Thomas D., Maj, MC, USAF
Headquarters
United States Air Force Academy
Colorado

ASBILL, Stephen G., Col, VC, USA
Walter Reed Army Medical Center
Washington, D. C.

AYARS, Laurence S., Col, MC, USAF
Sheppard Air Force Base, Texas

BACZEWSKI, Zbigniew J., Lt Col, MC, USAF
4900th USAF Dispensary
4900th Air Base Group
Kirtland Air Force Base,
Albuquerque, New Mexico

BANNING, George S., Jr., Lt Col, USAF
803d Medical Group, Strategic Air Command
Davis-Monthan Air Force Base, Arizona

BARLOW, Lundie W., Jr., Maj, USAFNG
153D USAF Dispensary,
Box 2268, Wyoming Air National Guard,
Cheyenne, Wyoming

BELL, William E., CDR
U. S. Public Health Service
Washington, D. C.

BETHARD, W.F., Doctor, GS-16
General Atomics, P.O. Box 608,
San Diego 12, California

BEYER, David H., Lt Col, MC, USAF
School of Aviation Medicine, USAF
~~8683 Space Med. Cntr~~ Brooks AFB, (Texas)

BITTICK, Paul, Jr., Maj, MC, USAF
Chief, Neurology and Psychiatry
Service,
USAF Hospital Andrews
Andrews Air Force Base, Maryland

BORAH, William N., Col, MC, USAF
2793d USAF Hospital
McClellan Air Force Base, California

BOWEN, I. G.
Lovelace Clinic
Albuquerque, New Mexico

BOWERMAN, Walter M., Capt, USAF
Headquarters
USAF Medical Service School
Gunter Air Force Base, Alabama

BOWERS, Jesse A., CDR, MC, USN
BUMED, Department of the Navy
Washington 25, D. C.

BROWN, Benjamin H., Capt, MC, USAF
3545 USAF Hospital
Goodfellow Air Force Base, Texas

BUNSTOCK, William H., Capt, MC, USAF
3535 Navigator Training Wing (ATC)
Mather Air Force Base, California

BESS, George C., Col, MC, USAF
1st Aeromedical Evacuation Group
Pope Air Force Base, North Carolina

BJORN, John C., Capt, MC, USA
Base Hospital
Sandia Base
Albuquerque, New Mexico

CAPLES, Joseph T., Col, MC, USA
U.S. Army Hospital
Fort Leavenworth, Kansas

COLLINS, Glen J., Col, MC, USA
Headquarters
Fort Leonard Wood, Missouri

CURTIS, Sidney H., Capt, MC, USAF
325th USAF Dispensary
McChord Air Force Base, Washington

DAUER, Maxwell, Lt Col, MSC, USA
Army Environmental Laboratory
Chemical Corp and Chemical Material
Command
Maryland

DAVIS, Paul W., Col, MC, USAF
380th Bomb Wing
Plattsburgh AFB, New York

DERANIAN, Paul, Capt, MC, USN
BUMED, Department of the Navy
Washington 25, D. C.

DILLE, J. Robert, M.D.
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

DUGUID, Robert H., GS-15, Dr.
USAEHL, Army Chemical Center
Maryland

EARLY, Warren L., Col, MC, USAF
Headquarters
Tactical Air Command
Langley Air Force Base, Virginia

ENDERS, Lawrence J., Capt, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

ESPEY, James G., Jr., Col, MC, USAF
Lowry Technical Training Center (ATC)
Lowry Air Force Base, Colorado

FARBER, Sheldon, Lt, MC, USNR
Clarksville Base
Clarksville, Tennessee

FLINTER, Marcus H., Col, MC, USA
Army Hospital
Fort Jay, Governors Island
New York

FRAYSSE, Louis A., III, Maj, MC, USAF
3510 Combat Crew Training Wing
Randolph Air Force Base, Texas

FRECKLETON, Frank R., Capt
USPHS
Washington, D. C.

FUNK, John W., Capt, MC, USAF
Headquarters
337th Fighter Group (Air Defense)
USAF, Portland International Airport
Portland 18, Oregon

GARDINER, Donald M., GS-15
U. S. Atomic Energy Commission
Argonne, Illinois

GARMAN, Thomas A., LCDR, DC, USN
Clarksville Base
Clarksville, Tennessee

GERLACH, William B., Capt, USAFNG
120TH FTR GP,
P.O. Box 1890, Montana Air National
Guard,
Great Falls, Montana

GRAHAM, Wistar L., Col, MC, USAF
USAF Hospital
Maxwell AFB, Alabama

GRAY, James K., Col, MC, USAF
26th Air Division
Hancock Field, New York

GRANT, Lee B., Col, MC, USAF
Department of the Air Force
Headquarters, United States Air Force
Washington 25, D. C.

GREENBERG, Milton, Col, MC, USAF
Headquarters
Continental Air Command
Mitchell Air Force Base,
New York

HALL, Charles C., Capt, USAFNG
125TH FTR GP, Imeson Airport,
Florida Air National Guard,
Jacksonville, Florida

HAMMOND, James H., Col, MC, USAF
Headquarters, Strategic Air Command
Offutt Air Force Base, Nebraska

HARDAWAY, Robert M., Col, MC, USA
Walter Reed Army Medical Center
Washington, D. C.

HARRELL, Henry C., Col, MC, USA
Schofield Barracks
Hawaii

HARRIS, John F., Col, MC, USA
U. S. Army Dispensary
Fort Lewis, Washington

HENRY, Joseph R., Col, MC, USAF
Keesler Technical Training Center (ATC)
Keesler Air Force Base, Mississippi

HENTEL, William R., M.D.
Veterans Administrative Hospital
Albuquerque, New Mexico

HIBBEN, Herbert A., Maj, MC, USAF
Headquarters, Strategic Air Command
Offutt Air Force Base, Nebraska

HICKS, Paul J., Capt, USAFR
3330 Kilgore,
Houston, Texas

HILL, Arthur W., Lt Col, MC, USA
Walson Army Hospital
Fort Dix, New Jersey

HOEY, Patrick H., Col, MC, USAF
Office of the Surgeon
Hq's, Continental Air Command
Mitchell Air Force Base, New York

HOLLOWAY, Charles K., Jr., Capt, MC, USN
BUMED, Department of the Navy
Washington 25, D. C.

JENNINGS, William E., Col, VC, USA
Headquarters Fifth United States Army
1660 East Hyde Park Boulevard
Chicago 15, Illinois

KELLY, Francis J., M.D.
Plant Physician
Mason & Hanger-Silas Mason Co. Inc.
Pantex Ordnance Plant
Amarillo, Texas

KIDDER, James H., Brig Gen, USAR
Special Assistant to the Surgeon
General
Office of the General
Washington, D. C.

KENT, James R., Maj, MC, USAF
United States Air Force Hospital Eglin
3201st. Air Base Wing (ARDC)
Eglin Air Force Base, Florida

KLEIN, Edward W., LT, MC, USN
BUMED, Department of the Navy
Washington 25, D. C.

KNISELEY, Ralph, M.D.
Chief of Research and Training,
Medical Division
Oak Ridge Institute of Nuclear Studies
Post Office Box 177
Oak Ridge, Tennessee

KOJAC, George H., Col, MC, USAF
Headquarters, USAF
Office of the Surgeon General
Washington, D. C.

LA FON, William F., Col, MC, USAF
401st. Tactical Hospital
England Air Force Base, Louisiana

LEAVER, Frank Y., Col, MC, USA
Letterman General Hospital
San Francisco, California

LELAND, Stanley, Dr.
Director of State Health Department
P.O. Box 711
Santa Fe, New Mexico

LEWIS, George O., Capt, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

LITWIN, Allen, LT, MC, USN
Base Hospital
Sandia Base
Albuquerque, New Mexico

LYNCH, Charles L., Maj, MC, USA
Army Hospital
Fort Jay, Governors Island
New York

McGINNIS, Easton L., Capt, MC, USA
Base Hospital
Sandia Base
Albuquerque, New Mexico

McGREGOR, Robert J., Capt, MC, USA
Base Hospital
Sandia Base
Albuquerque, New Mexico

McCord, Don L., LCDR, MC, USN
BUMED, Department of the Navy
Washington 25, D. C.

MACKENZIE, Vernon G., Captain
U. S. Public Health Service
Washington, D. C.

MACKINNON, Donald G., Capt, MC, USN
BUMED, Department of the Navy
Washington 25, D. C.

MAYHEW, Clifford L., Capt, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

MEISINGER, R. W.
Specialist in Radiation Protection
United States Atomic Energy Commission
Hanford Operations Office
P.O. Box 550
Richland, Washington

MENDELSON, Irving, Capt, MC, USA
U. S. Army CBR Weapons Orientation
Course
Dugway Proving Ground
Dugway, Utah

MILLER, Hubert W., Col, MC, USA
Headquarters, Strategic Air Command
Offutt Air Force Base, Nebraska

MINNERS, Howard A., Capt, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

MOELLER, Dade W., Commander
U. S. Public Health Service
Washington, D. C.

MOFFETT, James B., Lt Col, MC, USA
Base Hospital
Sandia Base
Albuquerque, New Mexico

MOORE, James T., Capt, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

MORRISSEY, Robert W., Lt Col, MC, USAF
USAF Hospital
Maxwell AFB, Alabama

MORSE, Mary F., Maj, MC, USA
Operations Division
Medical Section, Hq's., USCONARC
Fort Monroe, Virginia

NEELY, Samuel E., Maj, MC, USAF
Deputy Inspector General for Safety
Norton Air Force Base, California

NELSON, Clifford E., Commander
U. S. Public Health Service
Washington, D. C.

NELSON, Donald J., Jr., Commander
U. S. Public Health Service
Washington, D. C.

PAPPAS, James P., Col, MC, USA
Office of the Surgeon General
Washington, D. C.

PEASE, Phillip P., Col, MC, USAF
1 United States Air Force Hospital
Selfridge AFB, Michigan

PERKINS, David E., Capt, MC, USAF
Headquarters
Tactical Air Command
Langley Air Force Base, Virginia

PHILLIPS, Richard J., Lt Col, MC, USA
Army Environmental Laboratory
Chemical Corp and Chemical Material
Command
Maryland

PORTE, Daniel, Jr., LT, MC, USN
Naval Radiation Defense Laboratory
San Francisco, California

POWELL, Clinton G., Captain
U. S. Public Health Service
Washington, D. C.

POWER, William R., Col, MC, USAFR
Headquarters
Continental Air Command
Mitchell Air Force Base, New York

RAPALSKI, Adam J., Col, MC, USA
Army Environmental Laboratory
Chemical Corp and Chemical Material
Command
Maryland

RICHMOND, D. R.
Lovelace Clinic
Albuquerque, New Mexico

ROSS, Richard H., Lt Col, MC, USA
Brooke Army Medical Center
Fort Sam Houston, Texas

SAENGER, Eugene L., M.D.
Radioisotope Laboratory
Cincinnati General Hospital
Cincinnati 29, Ohio

SAWYER, Charles H., Capt, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

SCHMIDT, Robert B., Lt Col, MC, USA
101st. Airborne Division, Fort Campbell
Fort Campbell, Kentucky

SHIPLEY, Wayne D., Col, VC, USA
Veterinary Division
Office of the Surgeon General
Department of the Army
Washington 25, D.C.

SMITH, Clarence A., RADM
U. S. Public Health Service
Washington, D. C.

SMITH, William S., Col, MC, USA
Hq's. USCONARC
Fort Monroe, Virginia

STACY, Harold G., Lt Col, MC, USA
Brooke Army Medical Center
Fort Sam Houston, Texas

STANNARD, J. Newell, M. D.
Acting Dean for Graduate Studies
School of Medicine and Dentistry
University of Rochester
260 Crittenden Boulevard
Rochester 20, New York

STEELE, James H., Captain
U. S. Public Health Service
Washington, D. C.

STRODE, John T.B., Col, MC, USA
DeWitt Army Hospital
Fort Belvoir, Virginia

SWEARINGEN, Alfred G., Maj, MC, USAF
USAF Chanute Hospital
Chanute Air Force Base, Illinois

SMITH, Jerome F., Capt, MC, USN
BUMED, Department of the Navy
Washington 25, D. C.

TAYLOR, Ellis R., Maj, MC, USAF
Headquarters, Strategic Air Command
Offutt Air Force Base, Nebraska

TELLES, Norman C., Lt Commander
U. S. Public Health Service
Washington, D. C.

THOMPSON, William W., Lt Col, MC, USAF
Headquarters, Strategic Air Command
Offutt Air Force Base, Nebraska

TICKS, Paul J., Capt, USAFNG
147TH FTR GP,
Texas Air National Guard
Ellington AFB, Texas

TROXELL, John R., Lt Col, MC, USAF
Headquarters, Strategic Air Command
Offutt Air Force Base, Nebraska

TURNER, Roderick H., Capt, MC, USAF
Flight Medical Officer
32D USAF Hospital
Minot, North Dakota

WARD, Albert Neal
Medical Director
Paducah Plant
Union Carbide Nuclear Company
Post Office Box 1223
Paducah, Kentucky

WARREN, Willard R., Maj, MD, USA
U. S. Army Electronics Proving Grounds
Fort Huachuca, Arizona

WAMSLEY, James R., Capt, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

WARTELLA, Stephen, Jr., Lt Col, MC, USAF
USAF Hospital, Wright-Patterson,
Wright-Patterson Air Force Base, Ohio

WATKINS, T.K., LCDR, MC, USN
BUMED, Department of the Navy
Washington 25, D. C.

WELLS, John C., Jr., Maj, MC, USAF
Hq. Sq. Sec. 28th Air Division (SAGE)
Hamilton Air Force Base, California

WENTWORTH, John W., Col, MC, USAFR
Headquarters
Continental Air Command
Mitchel Air Force Base,
New York

WESTBROOK, William H., Col, MC, USAF
USAF Hospital Travis (MATS)
Travis Air Force Base, California

WHITEHOUSE, W.C., Jr., Lt-Col, MC, USA
Headquarters, Strategic Air Command
Offutt Air Force Base, Nebraska

WIEMER, Robert A., Lt Col, MC, USAF
Webb Air Force Base, Texas

WILSON, Charles L., Capt, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

WILSON, Leonard F., Col, MC, USA
Fort George G. Meade,
Maryland

WISCARSON, John W., Lt Col, MSC, USA
U.S. Army Air Defense Center
Fort Bliss, Texas

WOLTJEN, Myron J., Maj, MC, USAF
School of Aviation Medicine
USAF Aerospace Medical Center (ATC)
Brooks Air Force Base, Texas

ZANOLLI, G. F., M.D.
Industrial Physician
Union Carbide Nuclear Company
ORNL, X-10, Oak Ridge, Tennessee

BRIGGS, Gordon W., Maj, MC, USA
Office of the Surgeon General
Washington 25, D. C.

SPEAKERS NWMS-9

ANDREWS, Howard L., Ph.D.
Head, Radiation Physics Section, Radiation Branch
National Cancer Institute
National Institutes of Health
U. S. Public Health Service
Bethesda, Maryland

BOWSER, James R., Jr., Capt, USMC
Atomic Weapons Training Group
Sandia Base, New Mexico

ANDREWS, Gould R.
Institute of Nuclear Studies
Oak Ridge, Tennessee

CAMPBELL, Paul A., Col, MC, USAF
Assistant to the Commander for Advanced Studies
USAF Aerospace Medical Center,
Air Training Command
Brooks Air Force Base, Texas

COLLINS, Vincent P., M.D.
Chairman, Department of Radiology
Baylor University
College of Medicine
Texas Medical Center
Houston, Texas

CONNOR, Joseph A., Lt.Col, MC, USAF
Chairman, Aerospace Nuclear Safety Board
Division of Reactor Development
U.S. Atomic Energy Commission
Germantown, Maryland

DOBYNS, Robert E., Lt Commander, USN
Atomic Weapons Training Group
Sandia Base, New Mexico

DONNELLY, Harold C., Maj Gen, USAF
Commander, Field Command
Sandia Base, New Mexico

DOUGLAS, Robert J., Capt, USA
Atomic Weapons Training Group
Sandia Base, New Mexico

DUFFNER, Gerald J., Capt, MC, USN
Director, Submarine Medicine Division
Bureau of Medicine and Surgery
Department of the Navy
Washington 25, D. C.

FARNE, George H., Maj, USA
Atomic Weapons Training Group
Sandia Base, New Mexico

FITZPATRICK, Jack C., Maj, MC, USA
Division of Nuclear Medicine
and Chemistry
Walter Reed Army Institute of
Research
Walter Reed Army Medical Center
Washington 25, D.C.

FIXOTT, Richard S., Col, MC, USAF
Academy Surgeon
U.S. Air Force Academy
Colorado Springs, Colorado

GLASS, Albert J., Col, MC, USA
Chief Phychiatry and Neurology
Consultant
Office of the Surgeon General
Department of the Army
Washington 25, D. C.

GOLDSMITH, Alan E., Lt Col, USAF
Atomic Weapons Training Group
Sandia Base, New Mexico

GOLDSTEIN, Joseph D., Lt Col, MC, USA
Consultant to the Surgeon General
for Nuclear Energy
Army Medical Research and Development
Command
Washington 25, D. C.

HANSEN, Carl L., Jr, Lt Col, MC, USAF
Aerospace Medicine Division
Directorate of Professional Services
Office of the Surgeon General
Department of the Air Force
Washington, D. C.

HARRIS, Payne S., M.D.
Alternate Leader, Biomedical
Research Group
Los Alamos Scientific Laboratory
Los Alamos, New Mexico

HEKHUIS, Gerrit L., Col, MC, USAF
Chief, Department of Radiobiology
Brooks Air Force Base,
San Antonio, Texas

HERTFORD, Kenner F., Maj Gen, USA, Retired
Manager, U. S. Atomic Energy Commission
Albuquerque Operations Office
Sandia Base

JACOBUS, David P., M.D.
Division of Nuclear Medicine and Chemistry
Walter Reed Army Institute of Research
Walter Reed Army Medical Center
Washington 25, D. C.

KINCANNON, M. T.
Technical Advisor to Assistant Deputy
Chief of Staff
Atomic Weapons Training Group
Sandia Base

KNAUF, George M., Col, MC, USAF
Surgeon, Air Force Missile Test Center
Patrick Air Force Base, Florida

LANGHAM, Wright H., Ph.D.
Leader, Biomedical Research Group
Los Alamos Scientific Laboratory
Los Alamos, New Mexico

LIFTON, S. Elliot, Col, MC, USAF
Chief, Biophysics Division
Research Directorate
Air Force Special Weapons Center
Kirtland Air Force Base, New Mexico

MC DONNEL, Gerald M., M.D. (Lt Col, Reserve)
Associate Professor of Radiology
Department of Radiology, School of Medicine
University of California Medical Center
Los Angeles, California

MAUPIN, Clinton S., M.D. (Col, USA, Retir)
Reynolds Electrical and Engineering Co
Nevada Test Site
Mercury, Nevada

MEYER, Dean D.
Leader, Health Physics Group
Los Alamos Scientific Laboratory
Los Alamos, New Mexico

MONCRIEF, William H., Jr, Lt Col, MC, U
Chief, Surgical Services
Womack Army Hospital
Fort Bragg, North Carolina

PHILLIPS, James A., Ph.D.
Leader, p-14 Group
Los Alamos Scientific Laboratory
Los Alamos, New Mexico

ROSS, Douglas A., M.D.
Chief of Medical Physics, Medical
Division
Oak Ridge Institute of Nuclear Studies
Oak Ridge, Tennessee

VOGEL, Edward H., Jr., Col, MC, USA
Commanding Officer, U.S. Army Surgical
Research Unit
Brooke Army Medical Center
Fort Sam Houston, Texas

WHITE, Clayton S., M.D.
Director of Research
Lovelace Foundation for Medical
Education and Research
Albuquerque, New Mexico

OFFICE OF THE SURGEON
FIELD COMMAND
DEFENSE ATOMIC SUPPORT AGENCY
SANDIA BASE
ALBUQUERQUE, NEW MEXICO

Savino W. Cavender, Colonel, MC, USA
Command Surgeon

Charles D. Scheuch, Major, MC, USA
Assistant Command Surgeon

John F. Beesmer, Major, USA
Administrative Officer

Cornell Leake, M/Sgt, USA
NCOIC

Burl J. Wells, SFC, USA

Rex L. Strecker, Sgt, USA

Donald A. Thompson, A/1C, USAF

Francis L. Lane, YNSA, USN

James A. Bourett, Pvt, USA

Miss Libby Pacheco
Secretary to Field Command Surgeon



GREETINGS

It is with pleasure that I welcome you to Field Command, Defense Atomic Support Agency. The facilities of my headquarters and this base are at your disposal.

The challenge imposed by this atomic age -- the increasing use of nuclear power -- establishes the requirement for utmost preparedness to stay abreast of the physical sciences, and research and development in this important field. New opportunities are offered the medical profession with hopes for advances in the prevention and treatment of disease and injury.

It is my hope that your visit will prove advantageous and gratifying.

H. C. Donnelly
H. C. DONNELLY
Major General, USAF
Commander

FOREWORD

This Symposium guide has been prepared to aid the selected personnel attending the Armed Forces Medical Symposium at this headquarters in October 1960. General information, locator map, helpful telephone numbers, diagram and room numbers for Building 602, program from 3 to 7 October, and biography covers pertinent data for the conferees.

As a part of the mission of Commander, Field Command, Defense Atomic Support Agency, this Symposium is designed to provide maximum dissemination and exchange of knowledge in the vital area of nuclear weapons effects and nuclear medicine. Current and anticipated influences of nuclear energy, manned space flights, rapid advances in weapons design and associated technical equipment, and nuclear accidents with radioactive contamination, produces an accelerated awareness of the necessity for additional knowledge in the fields of radiobiology and biological effects of nuclear weapons. Cognizance of the above has had marked effects on military medical services. The best current thinking will be reflected during this Symposium, furnishing additional information for planning purposes.

S. W. Cavender
S. W. CAVENDER
Colonel, Medical Corps
Surgeon, Field Command

**ARMED FORCES MEDICAL SYMPOSIUM (NWMS-9)
3-7 OCTOBER 1960**

GENERAL INFORMATION

1. Reporting and Clearing.

a. Conferees may sign in at the BOQ Office, Building 2010, or at Headquarters Field Command, Defense Atomic Support Agency (DASA), Building 200. Orders requiring endorsement will be collected during the Symposium and returned prior to departure.

b. Upon registration at the BOQ Office, additional information will be issued pertaining to the Symposium and local facilities.

c. When the Symposium terminates, conferees may sign out at the BOQ Office, Building 2010. BOQ charges may be settled at any time during the last day of the Symposium.

d. Certificates of Nonavailability of Messing Facilities will be issued on the last day of the Symposium.

2. Communications.

a. There are two telephones located in the class lounge, Building 602, for base and local calls. Incoming calls should be directed to extension 44118. Incoming messages will be attached to the bulletin board located in the class lounge, Building 602.

b. Messages, TWXs, or official long-distance (collect) calls may be made by contacting the Operations Sergeant at the information desk in the lobby of Building 602.

3. Locator. Permanently assigned base personnel may be located by calling the Base Locator, extension 52225.

4. Messing Facilities.

a. The Officers' Mess operates on the following schedule:

(1) Dining Room:

Monday through Thursday:

Breakfast	0600-1030
Lunch	1100-1300
Dinner	1700-2100

Friday:

Breakfast	0600-1030
Lunch	1100-1300
Dinner	1700-2230

Saturday:

Brunch	0800-1330
Dinner	1700-2230

Sunday:

Brunch	0800-1330
Dinner	<u>1730-2030</u>

(2) Snackbar:

Monday through Thursday:	1700-2300
Friday through Saturday:	1700-0100
Sunday:	Closed

b. There is a snackbar in Building 602 that is open from 0700 to 1500, Monday through Friday.

5. Transportation.

a. Transportation will be available between Building 602 and the Officers' Mess. To facilitate processing and seating, it is requested that official transportation be used on the first day.

b. A representative from the Base Transportation Office will be available in the Officers' Mess to assist with return travel arrangements; time and place will be announced. Those desiring to make arrangements directly may contact Base Transportation Office, Building 360, Room 124, extension 22217.

c. Departure questionnaires will be issued and collected during the Symposium. A schedule will be issued on the last day indicating transportation arrangements.

d. Sedans are available for onbase runs. For this service, call extension 38137. To maintain the effectiveness of this service, sedans should not be requested to wait.

e. Sedans are not available for offbase runs except for official business. Onbase sedan service may be requested to make connection with the bus service at the North Gate.

f. City bus service for downtown Albuquerque leaves from the North Gate on the following schedule:

(1) From 0700 to 1900. Every 15 minutes beginning at 5 minutes past the hour.

(2) After 1900. Every 30 minutes beginning at 10 minutes past the hour, except the last bus which leaves at 0005.

(3) Before 0700. 0610, 0640, and 0652.

6. Security.

a. All presentations will take place in Building 602, Room 129A, a rigidly controlled exclusion area.

b. During duty hours, arrangements for safeguarding classified material in the possession of conferees may be made on an individual basis with the operations personnel of the Surgeon's Office, extension 31120. In the case of off-duty-hour arrivals, the Field Command Staff Duty Officer, Building 200, extension 38127 or extension 33122, will store classified material until other arrangements may be made.

c. TOP SECRET clearance badges will be issued from 1900 to 2100 on Sunday, 2 October, and from 0645 to 0710 on Monday, 3 October, in the lobby of the Officers' Mess by representatives of the Field Command Visitors' Bureau.

d. During the last period on Friday, 7 October, security badges will be picked up and the blue receipts will be returned. These receipts will serve as exit passes from the area.

7. Uniform. Pertinent uniform directives of each Service will apply. Dress uniform, semidress uniform, or appropriate civilian attire is required in the Officers' Mess after 1800.

8. Base Facilities.

a. A barber shop is located in the basement of the Officers' Mess. The shop is open from 0800 to 1800, Monday through Friday, and from 0830 to 1300 on Saturday. For appointments, call extension 20267.

b. Mail will be delivered to the BOQ Mailroom, Building 2010, and it may be picked up there.

c. The base exchange is located in Building 224. The hours of operation are from 0900 to 1700 on weekdays and from 0900 to 1300 on Saturday. Bus transportation to the base exchange will be provided from Building 602.

d. Laundry and drycleaning service is available. Soiled items must be turned in by 0800 in the lobby of the BOQ, Building 2010, and finished items are distributed and paid for from 1630 to 1730 in the laundry room at the east end of the BOQ. Normal laundry service only takes 2 days; drycleaning service, 3 days. Special 1-day drycleaning service is available for a 25-percent additional charge by writing the word "SPECIAL" on the ticket.

PROGRAM
ARMED FORCES MEDICAL SYMPOSIUM
3-7 OCTOBER 1960

Building 602, Room 129A
Sandia Base, New Mexico
Colonel S. W. Cavender, MC, USA
Project Officer

INTRODUCTION TO NUCLEAR WEAPONS
MONDAY, 3 OCTOBER 1960

0730-0750	Security Briefing and Administration
0750-0800	Opening Remarks Major General Harold C. Donnelly, USAF Commander, Field Command, Defense Atomic Support Agency
0800-0840	The Impact of Nuclear Energy on Medicine ✓ Kenner F. Hertford (Major General, USA, Retired) Manager, Albuquerque Operations Office U.S. Atomic Energy Commission Albuquerque, New Mexico
0840-0900	BREAK
0900-0930	Fission Principles Captain James R. Bowser, Jr., USMC Instructor, Weapons Orientation Branch Orientation and Employment Division Atomic Weapons Training Group
0930-1000	Fission Weapons Captain Robert J. Douglas, USA Instructor, Weapons Orientation Branch Orientation and Employment Division Atomic Weapons Training Group
1000-1010	BREAK

1010-1040 **Missile Warheads**
 Major George H. Farne, USA
 Instructor, Weapons Orientation Branch
 Orientation and Employment Division
 Atomic Weapons Training Group

1040-1050 **BREAK**

1050-1135 **Fusion Principles**
 Lieutenant Commander Robert E. Dobyys, USN
 Instructor, Weapons Orientation Branch
 Orientation and Employment Division
 Atomic Weapons Training Group

Fusion Weapons
 Lieutenant Colonel Alan E. Goldsmith, USAF
 Instructor, Weapons Orientation Branch
 Orientation and Employment Division
 Atomic Weapons Training Group

1135-1300 **LUNCH**

GROUP I

1300-1340 **Nuclear Materials Production**
 Major George H. Farne, USA
 Instructor, Weapons Orientation Branch
 Orientation and Employment Division
 Atomic Weapons Training Group

1340-1355 **BREAK**

1355-1430 **Terminology**
 Captain James R. Bowser, Jr., USMC
 Instructor, Weapons Orientation Branch
 Orientation and Employment Division
 Atomic Weapons Training Group

1430-1440 **BREAK**

1440-1610 **Weapons Display Area**
 Lieutenant Colonel Alan E. Goldsmith, USAF
 Major Russell W. Bertholf, Jr., USA
 Lieutenant Commander Robert E. Dobyys, USN
 Captain Robert J. Douglas, USA
 Instructors, Weapons Orientation Branch
 Orientation and Employment Division
 Atomic Weapons Training Group

GROUP II

1300-1430 Weapons Display Area
Lieutenant Colonel Alan E. Goldsmith, USAF
Major Russell W. Bertholf, Jr., USA
Lieutenant Commander Robert E. Dobyms, USN
Captain Robert J. Douglas, USA
Instructors, Weapons Orientation Branch
Orientation and Employment Division
Atomic Weapons Training Group

1430-1445 BREAK

1445-1525 Nuclear Materials Production
Major George H. Farne, USA
Instructor, Weapons Orientation Branch
Orientation and Employment Division
Atomic Weapons Training Group

1525-1535 BREAK

1535-1610 Terminology
Captain James R. Bowser, Jr., USMC
Instructor, Weapons Orientation Branch
Orientation and Employment Division
Atomic Weapons Training Group

GROUPS I-II

1610-1620 BREAK

1620-1640 Impact
Lieutenant Commander Robert E. Dobyms, USN
Instructor, Weapons Orientation Branch
Orientation and Employment Division
Atomic Weapons Training Group

1800-2000 COCKTAIL PARTY AT SANDIA BASE OFFICERS' MESS

PHYSICAL AND BIOLOGICAL EFFECTS OF NUCLEAR WEAPONS

TUESDAY, 4 OCTOBER 1960

0800-0850 Effects of Thermal Radiation
Colonel Edward H. Vogel, Jr., MC, USA
Commanding Officer, U.S. Army Surgical Research Unit
Brooke Army Medical Center
Fort Sam Houston, Texas

0850-0900	BREAK
0900-0940	Ocular Effects of Nuclear Detonations Colonel Richard S. Fixott, MC, USAF Academy Surgeon U. S. Air Force Academy Colorado Springs, Colorado
0940-1000	BREAK
1000-1050	Biological Effects of Internal Ionizing Radiation Wright H. Langham, Ph. D. Leader, Biomedical Research Group Los Alamos Scientific Laboratory Los Alamos, New Mexico
1050-1100	BREAK
1100-1200	Initial Nuclear Radiations and Their Biological Effects ✓ Payne S. Harris, M. D. Alternate Group Leader, Biomedical Research Group Los Alamos Scientific Laboratory Los Alamos, New Mexico
1200-1300	LUNCH
1300-1340	Potential Radiation Hazards of Weapons Prior to Delivery ✓ Wright H. Langham, Ph. D. Leader, Biomedical Research Group Los Alamos Scientific Laboratory Los Alamos, New Mexico
1340-1350	BREAK
1350-1440	Effects of Low-Level, Repeated Exposures and Long-Term Considerations of Ionizing Radiations -Colonel Gerrit L. Hekhuis, USAF Chief, Department of Radiobiology Brooks Air Force Base San Antonio, Texas
1440-1500	BREAK
1500-1600	Effects of Blast Clayton S. White, M. D. Director of Research Lovelace Foundation for Medical Education and Research Albuquerque, New Mexico

PROBLEMS REQUIRING SPECIAL MEDICAL CONSIDERATIONS

WEDNESDAY, 5 OCTOBER 1960

- 0800-0900 **Psychiatric Effects Before, During, and After Nuclear Detonations**
Colonel Albert J. Glass, MC, USA
Chief Psychiatry and Neurology Consultant
Office of The Surgeon General
Department of the Army
Washington 25, D. C.
- 0900-0910 **BREAK**
- 0910-0950 **Pre and Post Ionizing Radiation Exposure Drugs**
✓ David P. Jacobus, M. D.
Division of Nuclear Medicine and Chemistry
Walter Reed Army Institute of Research
Walter Reed Army Medical Center
Washington 25, D. C.
- 0950-1000 **BREAK**
- 1000-1050 **Russian Medical Capabilities**
✓ Gerald M. McDonnel, M. D. (Lieutenant Colonel, MC, USA, Res.)
Associate Professor of Radiology
Department of Radiology, School of Medicine
University of California Medical Center
Los Angeles, California
- 1050-1100 **BREAK**
- 1100-1150 **Human Tolerance to Total Body Radiation in Therapeutic Exposures**
✓ Vincent P. Collins, M. D.
Chairman, Department of Radiology
Baylor University
College of Medicine
Texas Medical Center
Houston, Texas
- 1150-1300 **LUNCH**
- 1300-1350 **Exposure to Partial Body Radiation - Human**
Lieutenant Colonel Carl L. Hansen, Jr., MC, USAF
Aerospace Medicine Division
Directorate of Professional Services
Office of The Surgeon General
Department of the Air Force
Washington, 25, D. C.

1350-1400 **BREAK**

1400-1450 **Diagnostic Procedures for Radioactive Casualties**
Douglas A. Ross, M. D.
Chief of Medical Physics, Medical Division
Oak Ridge Institute of Nuclear Studies
Oak Ridge, Tennessee

1450-1500 **BREAK**

1500-1600 **Treatment of Acute Radiation Damage**
Marshall Brucer, M. D.
Chairman, The Medical Division
Oak Ridge Institute of Nuclear Studies
Oak Ridge, Tennessee

SPECIAL PROBLEMS CHALLENGING THE MEDICAL PROFESSION

THURSDAY, 6 OCTOBER 1960

0800-0850 **Nuclear Submarine Medical Problems**
Captain Gerald J. Duffner, MC, USN
Director, Submarine Medicine Division
Bureau of Medicine and Surgery
Department of the Navy
Washington 25, D. C.

0850-0900 **BREAK**

0900-0940 **Public Health Aspects of Radiation Hazards**
Howard L. Andrews, Ph. D.
Head, Radiation Physics Section, Radiation Branch
National Cancer Institute
National Institutes of Health
U. S. Public Health Service
Bethesda, Maryland

0940-1000 **BREAK**

1000-1050 **Biological Effects of Microwaves**
Colonel George M. Knauf, MC, USAF
Surgeon, Air Force Missile Test Center
Patrick Air Force Base, Florida

1050-1100 **BREAK**

1100-1150 **Worldwide Fallout**
Wright H. Langham, Ph. D.
Leader, Biomedical Research Group
Los Alamos Scientific Laboratory
Los Alamos, New Mexico

1150-1300 **LUNCH**

1300-1345 **Space Radiations, Natural and Manmade**
 Wright H. Langham, Ph. D.
 Leader, Biomedical Research Group
 Los Alamos Scientific Laboratory
 Los Alamos, New Mexico

1345-1355 **BREAK**

1355-1445 **Fatal or Potentially Fatal Accidents**
 Dean D. Meyer
 Leader, Health Physics Group
 Los Alamos Scientific Laboratory
 Los Alamos, New Mexico

1445-1500 **BREAK**

1500-1600 **Reactors and Nuclear Power Sources**
 Lieutenant Colonel Joseph A. Connor, MC, USAF
 Chairman, Aerospace Nuclear Safety Board
 Division of Reactor Development
 U. S. Atomic Energy Commission
 Germantown, Maryland

MEDICAL PROBLEMS INCIDENT TO NUCLEAR ACCIDENTS

FRIDAY, 7 OCTOBER 1960

0730-0900 **Operational Problems Associated With Nuclear Accidents**
 Colonel S. Elliot Lifton, MC, USAF
 Chief, Biophysics Division
 Research Directorate
 Air Force Special Weapons Center
 Kirtland Air Force Base, New Mexico

 M. T. Kincannon
 Technical Advisor to Assistant Deputy Chief of Staff
 Atomic Weapons Training Group

0900-0910 **BREAK**

0910-1020 **Biomedical Field Experiments**
 Operation PLUMBBOB
 Lieutenant Colonel William H. Moncrief, Jr., MC, USA
 Chief, Surgical Services
 Womack Army Hospital
 Fort Bragg, North Carolina

Operation HARDTACK II

Major Jack C. Fitzpatrick, MC, USA
Division of Nuclear Medicine and Chemistry
Walter Reed Army Institute of Research
Walter Reed Army Medical Center
Washington 25, D. C.

1020-1035 **BREAK**

1035-1125 **Special Medical Considerations of Weapons Testing**
Clinton S. Maupin, M. D. (Colonel, MC, USA, Retired)
Reynolds Electrical & Engineering Co., Inc.
Nevada Test Site
Mercury, Nevada

1125-1300 **LUNCH**

ASSOCIATED MEDICAL PROBLEMS

1300-1345 **Peaceful Uses of Atomic Energy - Project SHERWOOD**
James A. Phillips, Ph., D.
Leader, P-14 Group
Los Alamos Scientific Laboratory
Los Alamos, New Mexico

1345-1355 **BREAK**

1355-1445 **Biomedical Problems in Space Flight**
Colonel Paul A. Campbell, MC, USAF
Assistant to the Commander for Advanced Studies
USAF Aerospace Medical Center, Air Training Command
Brooks Air Force Base, Texas

1445-1455 **BREAK**

1455-1545 **Casualty Estimation**
Lieutenant Colonel Joseph D. Goldstein, MC, USA
Consultant to the Surgeon General for Nuclear Energy
Army Medical Research and Development Command
Washington 25, D. C.

1545-1555 **Closing Remarks**
Major General Harold C. Donnelly, USAF
Commander, Field Command, Defense Atomic Support Agency

BIOGRAPHY

ANDREWS, HOWARD L., Ph. D.

Head, Radiation Physics Section, Radiation Branch, National Cancer Institute; and concurrently, Radiation Safety Officer, National Institutes of Health. Ph. D. (Physics), Brown University, 1931. Prior to 1945 was connected with biophysics research; as a member of the Test Managers Advisory Panel, participated in all the test series in Nevada and in three Pacific test operations; and Head, Radiation Physics Section, Radiation Branch, National Cancer Institute. Outstanding achievements: Coauthor of "Nuclear Radiation Physics." Member: Council of the Radiation Research Society, National Academy of Science Committee on Pathological Effects of Radiation, National Academy of Science Committee on Radiobiology, and National Committee on Radiation Protection.

BERTHOLF, RUSSELL W., JR., Major, United States Army.

Instructor, Orientation and Employment Division, Atomic Weapons Training Group, Field Command, DASA. Attended Montana State College, 1940-1943, 1946-1947; Infantry Officers' Advanced Course, 1951-1952; and Command and General Staff College, 1954-1955. Platoon Leader and Battalion Communications Officer, 65th Infantry Division, European Theater of Operations, 1944-1945; Regimental Communications Officer and Company Commander, 9th Infantry Division, European Theater of Operations, 1945-1946; Company Commander and Battalion S-1, 24th Infantry Division, Japan and Korea, 1949-1951; Instructor, The Infantry School, Fort Benning, Georgia, 1952-1954; Operations Staff Officer, Headquarters CINCSOUTH, Naples, Italy, 1955-1957; Instructor for Special Weapons, United States Army Intelligence, Military Police, and Special Weapons School, Europe, 1957-1959; and Instructor, Orientation and Employment Division, AWTG, 1959-present. Awards: Bronze Star Medal with 2 Oak-leaf Clusters.

BOWSER, JAMES R., JR., Captain, United States Marine Corps.

Instructor, Weapons Orientation Branch, Orientation and Employment Division, Atomic Weapons Training Group, Field Command, DASA. B.S., United States Naval Academy, 1948-1952; Officers' Basic School, Quantico, Virginia, 1952; Basic Officers' Course, Artillery School, Fort Sill, 1953; and M.S. (Physics), United States Naval Postgraduate School, Monterey, California, 1956-1958. Assistant S-3, Battalion, 11th Marine Corps, 1st Marine Division, Korea, and Assistant S-3, Regiment, 11th Marine Corps, 1st Marine Division, Korea, 1953-1954; Assistant Fire Support Coordination Officer, Battery Executive Officer, Battery Commanding Officer, and Assistant S-3, 10th Marine Corps, 2d Marine Division, Camp Lejeune, 1954-1956; and Instructor, Weapons Orientation Branch, Orientation and Employment Division, AWTG, 1958-present.

BRUCER, MARSHALL, M.D.

Chairman, The Medical Division, Oak Ridge Institute of Nuclear Studies. B.S., Northwestern University; M.D., University of Chicago; and internship, Mallory Institute of Pathology, Boston, Massachusetts. Professor of Physiology, University of Texas; Surgeon, Airborne Command, Camp Mackall; and Chairman,

Medical Division, Oak Ridge Institute for Nuclear Studies (directs the Cancer Research Program). Outstanding achievements: While a member of the Airborne Test Board, Airborne Command, "jump-tested" equipment for the Command. Member: American Association for the Advancement of Science, American Medical Association, American Statistical Association, Biometric Society, and Medical School Staff of the University of Texas.

CAMPBELL, PAUL A., Colonel, Medical Corps, United States Air Force.

Assistant to the Commander for Advanced Studies, United States Air Force Aerospace Medical Center, Air Training Command, Brooks Air Force Base. B.S., University of Chicago, 1924; M.D., Rush Medical College, University of Chicago, 1928; and postgraduate specialization in otolaryngology, University of Vienna, 1935. Served in the Medical Corps, 1940-1946; recalled from Korea to serve as Air Attache in both England and the Netherlands; cofounder of the Space Medicine Branch of the Aeromedical Association, 1950; Chairman of the first ARDC Space Biology Committee, 1953; Chief, Space Medicine Division, United States Air Force School of Aviation Medicine, Brooks Air Force Base, 1953-1959; and United States Air Force Aeromedical Representative, Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, and concurrently, Assistant to the Commander for Advanced Studies, Aerospace Medical Center, 1959-present. Fellow: American Astronautical Society, American College of Surgeons, American Laryngological Society, American Otological Society, American Rocket Society, American Triological Society, British Interplanetary Society, Institute of Aeronautical Sciences, and Royal Society of Medicine (England).

COLLINS, VINCENT P., M. D.

Chairman, Department of Radiology, Baylor University, College of Medicine, Texas Medical Center, and Consultant in Radiology, Lackland Air Force Base Hospital. M.D., University of Toronto, 1937. Rotating Internship, Toronto General Hospital, 1937-1938; Demonstrator in Anatomy and Fellow in Physiology, University of Toronto, 1938-1939; Research Fellow, Banting Institute, University of Toronto, 1939-1940; Senior Resident in Pathology, New England Deaconess Hospital, 1940-1942; Resident in Surgical Pathology, and Instructor in Surgery, Presbyterian Hospital, Columbia University, 1942-1943; military service, USA Medical Corps (SWPA), 1943-1945; Resident in Radiology, Presbyterian Hospital, New York, 1945-1947; Assistant Radiologist, Presbyterian Hospital, 1947-1950; Instructor in Radiology, Columbia University, 1947-1949; Consultant in Radiology, Marine Hospital, Staten Island, 1948-1952; Assistant Professor in Radiology, Columbia University, 1949-1950; Associate Professor in Radiology, Columbia University, 1950-1952; Attending Radiologist, Presbyterian Hospital, 1950-1952; Chief of Radiotherapy, Francis Delafield Hospital, New York, 1950-1952. Since 1952, Professor of Radiology, and Chairman of the Department, Baylor University College of Medicine, Houston, Texas; Radiologist-in-Chief, Jefferson Davis Hospital, Houston; Chief Consultant in Radiology, Veterans Administration Hospital, Houston; Consultant in Radiology, Brooke Army Hospital, Fort Sam Houston. Since 1953, Consultant in Radiology, Armed Forces Institute of Pathology, Washington, D. C.; and Consultant in Radiology, Teletherapy Evaluation Program, Oak Ridge Institute of Nuclear Studies. Since 1954, Consultant Isotope Committee, Scott & White Memorial Hospitals,

Temple, Texas; and Attending Radiologist, Methodist Hospital, Houston. Since 1956, Consultant in Radiology, St. Luke's & Texas Children's Hospital, Houston, Texas. Since 1957, Consultant in Radiology, Lackland Air Force Base Hospital, San Antonio, Texas, and Chairman, Department of Radiology, Baylor University, College of Medicine, Texas Medical Center.

CONNOR, JOSEPH A., JR., Lieutenant Colonel, Medical Corps, United States Air Force.

Chairman, Aerospace Nuclear Safety Board, Division of Reactor Development, United States Atomic Energy Commission. (See page 22.)

DOBYNS, ROBERT E., Lieutenant Commander, United States Navy.

Instructor, Weapons Orientation Branch, Orientation and Employment Division, Atomic Weapons Training Group, Field Command, DASA. Southwestern University, Georgetown, Texas, 1943-1944; B. S., University of New Mexico, 1946; and General Line School, Monterey, California, 1954. Gunnery Officer, U. S. S. R. H. SMITH, 1946-1947; Staff Communications, Commander Naval Forces, Philippines, 1947-1948; Operations, Utility Squadron Ten, Guantanamo Bay, Cuba, 1949-1952; Operations, Naval Air Station, Anacostia, 1952-1954; Operations, Patrol Squadron Forty-Nine, Bermuda, 1954-1956; Instructor, FAETU-LANT, 1956-1958; and Instructor, Weapons Orientation Branch, Orientation and Employment Branch, AWTG, 1958-present.

DONNELLY, HAROLD C., Major General, United States Air Force.

Commander, Field Command, DASA. B. S., United States Military Academy, 1933; and graduate, Army-Navy Staff College, 1944, and Air War College, 1949. Commissioned, 2d Lieutenant, Coast Artillery, 1933; served in various capacities at Fort Monroe, Panama Canal Zone, Philippine Islands, Fort Scott, and Camp Haan, 1933-1941; Assistant to Operations Officer, Western Defense Command, San Francisco, California, 1941-1942; Anti-Aircraft Command, Richmond, Virginia, 1942-1943; Planning Staff Headquarters, China-Burma-India Theater, 1944; Executive to Deputy Supreme Allied Commander, Southeast Asia Command, 1944-1945; Deputy Chief of Staff, India-Burma Theater, 1945-1946; Chief of Staff, India-Burma Theater, 1946; War Plans Branch, Plans and Operations Division, War Department General Staff, 1946; transferred to United States Air Force in 1947; Executive to Deputy Chief of Staff, Operations, 1947-1948; Chief, Materiel and Research Division, Office of the Assistant for Atomic Energy under the Deputy Chief of Staff, Operations, 1949-1950; Military Executive to the Secretary and Under Secretary of the United States Air Force, 1950-1951; Chief of Staff, Armed Forces Special Weapons Project, 1951-1954; overseas as Special Assistant to Air Deputy, Supreme Allied Headquarters, and as Chief, Plans and Policy Branch, Plans and Policy Division, SHAPE, 1954-1957; Assistant Deputy Chief of Staff, Plans and Programs, Office of Deputy Chief of Staff for Plans and Programs, USAF Headquarters, 1957-1960; and Commander, Field Command, Defense Atomic Support Agency, 1960-present. Awards: Legion of Merit with 1 Oak-Leaf Cluster, and the Order of the British Empire Officer Class.

DOUGLAS, ROBERT J., Captain, United States Army.

Instructor, Orientation and Employment Division, Atomic Weapons Training Group. B.S., The Citadel, South Carolina, 1950; Associate Field Artillery Battery Officers Course, Fort Sill, 1952; Regular Ordnance Company Officers Course, Aberdeen Proving Grounds, 1953; Ammunition Supply Officers Course, Aberdeen Proving Grounds, 1953; and Ordnance Officers Advanced Course, Aberdeen Proving Grounds, 1959. Assistant Battalion Motor Officer, Artillery Firing Battery (Forward Observer), 9th Field Artillery, Korea, 1950-1951; Battalion Motor Officer, Fort Sill, 1952; Ordnance Proof Officer, Development and Proof Service Division, Aberdeen Proving Grounds, 1953; Ordnance Ammunition Command, 1953-1955; Division Ammunition Officer, 9th Infantry Division, Germany, 1955-1956; Assistant Ammunition Supply Officer, 57th Ordnance Group, Germany, 1956-1957; Ammunition Supply Officer, 57th Ordnance Group, Germany, 1957-1958; and Instructor, Orientation and Employment Division, AWTG, 1959-present.

DUFFNER, GERALD J., Captain, Medical Corps, United States Navy.

Director, Submarine Medicine Division, Bureau of Medicine and Surgery, Department of the Navy. A.B., University of Denver, 1937; M.D., University of Colorado, 1941; internship, U.S. Marine Hospital, New Orleans, Louisiana, 1941-1942; and diplomate in Occupational Medicine, American Board of Preventive Medicine. Entered the Navy as a Lieutenant (jg.) in 1942; aboard the U. S. S. NEW JERSEY, 1943-1945; Executive Officer, Naval Medical Research Institute, 1946-1948; Staff Medical Officer, Submarine Flotilla One, Pacific Fleet, 1948-1951; Officer in Charge, Naval Medical Research Laboratory, Submarine Base, New London, 1951-1956; Medical Director, Naval Experimental Diving Unit, and Head, Shipboard and Submarine Medicine Research Branch, Bureau of Medicine and Surgery, 1956-1959; and Director, Submarine Medicine Division, Bureau of Medicine and Surgery, 1959-present. Outstanding achievements: Directed the research program at the Naval Medical Research Laboratory which provided knowledge required to establish atmospheric standards for nuclear submarines (has been associated with underwater activity since 1945). Fellow: American College of Preventive Medicine. Member: Phi Beta Pi, American Association for the Advancement of Science, and U.S. Association of Military Surgeons. Awards: American Campaign Medal, Asiatic-Pacific Campaign Medal with seven stars, World War II Victory Medal, National Defense Service Medal, and Philippine Liberation Ribbon with one star.

FARNE, GEORGE H., Major, United States Army.

Instructor, Weapons Orientation Branch, Orientation and Employment Division, Atomic Weapons Training Group, Field Command, DASA. B.S., United States Military Academy, 1941-1944; Officer Guided Missiles Course, Artillery School, 1948; Artillery School, 1949; Antiaircraft Officers' Advanced Course, 1951; and Command and General Staff College, 1957-1958. Battery Commander, Okinawa, 1945-1947; Staff and Faculty, Guided Missile Division, Fort Scott, 1948-1949; Assistant S-3, 1st Guided Missile Group, Fort Bliss, 1951-1953; Assistant S-3, 56th Antiaircraft Artillery Brigade, Fort Devens, 1953-1957; and Instructor, Weapons Orientation Branch, Orientation and Employment Division, AWTG, 1958-present.

FITZPATRICK, JACK C., Major, Medical Corps, United States Army.

Division of Nuclear Medicine and Chemistry, Walter Reed Army Institute of Research, Walter Reed Army Medical Center. Attended University of Kansas and University of Texas, 1940-1943; M. D., University of Texas, Dallas, Texas, 1946; rotating internship, Baylor University Hospital, Dallas, Texas, 1946-1947; residency in internal medicine: United States Veterans' Administration Hospital (Lisbon), Dallas, Texas; Queens Hospital, Honolulu, Hawaii; and Los Angeles County General Hospital, Los Angeles, California; Radiobiology Course, Reed College; Officers' Advanced Course, Army Medical Service School, 1957; and certified, American Board of Internal Medicine. Ward Officer, Medical Service, and Chief, Cardiovascular Service, Tripler General Hospital, 1947; Battalion Surgeon, Topographical Battalion, 30th Engineers, Guadalcanal, 1948; Assistant Chief of Medicine, Tripler General Hospital, 1948-1949; Chief of Medical Service, Chief of Laboratory Service, and concurrently, Chief of Outpatient Service, United States Army Hospital, Sandia Base, 1950-1952; Nuclear Medical Officer, Army Medical Service School, and Assistant Chief, Department of Medicine, Brooke Army Hospital, Brooke Army Medical Center, 1957-1959; participated in Operation HARDTACK, Phase I (Eniwetok), and Project Officer (Project 4.2.1), Phase II, 1958; Assistant to the Special Assistant for Nuclear Energy, Office of the Surgeon General, Department of the Army, 1959-1960; and Division of Nuclear Medicine and Chemistry, Walter Reed Army Institute of Research, Walter Reed Army Medical Center, 1960-present.

FIXOTT, RICHARD S., Colonel, Medical Corps, United States Air Force.

Surgeon, United States Air Force Academy, Colorado Springs, Colorado. Attended Stanford University, 1927-1930; M. D., University of Oregon, 1934; postgraduate training and practice in ophthalmology, 1935-1940; and certified by American Board of Ophthalmology, 1949. Served as Infantry Battalion Surgeon and Air Force Flight Surgeon during World War II; Assistant Surgeon, 14th Air Force, China, 1944-1945; civilian practice in ophthalmology, 1946-1951; Chief of Eye, Ear, Nose, and Throat Clinic, 3310th United States Air Force Hospital, Scott Air Force Base, 1951-1953; Surgeon, Caribbean Air Command, 1953-1955; Chief, Clinical Medicine Division, United States Air Force School of Aviation Medicine, 1955-1958; Associate Project Officer (Project 4.1), Operation REDWING, 1956; and Surgeon, United States Air Force Academy, 1958-present. Member: Academy of Ophthalmology and Otolaryngology, Aerospace Medical Association, American Medical Association, Association of Military Ophthalmologists, Association for Research in Ophthalmology, and Oregon State Medical Society.

GLASS, ALBERT J., Colonel, Medical Corps, United States Army.

Chief Psychiatry and Neurology Consultant, Office of the Surgeon General, Department of the Army. B. S., University of Maryland, 1928; M. D., University of Maryland, 1932; internship and residency, Gouverneur Hospital, New York City, 1932-1934; residency in neurology, Central Neurological Hospital, 1934-1935; and certified by American Board of Psychiatry and Neurology, 1947. Entered military service, 1941; Psychiatrist: Station Hospital, Fort George G. Meade, Maryland; 165th Station Hospital, Territory of Hawaii; and 114th Station Hospital, North Africa; Field Psychiatrist Fifth Army, Italy; Division

Psychiatrist, 85th Infantry Division, Italy; Assistant Chief, Neuropsychiatric Service, Brooke Army Hospital, 1947-1948; Chief, Psychiatric Section, Letterman General Hospital, 1948-1950; Chief Neuropsychiatric Consultant, Far East Command, 1950-1951; Chief, Department of Neuropsychiatry, Medical Field Service School and Brooke Army Hospital, 1952-1954; Deputy Director, Division of Neuropsychiatry, Walter Reed Army Institute of Research, 1954-1955; Chief, Department of Neuropsychiatry, Army Hospital, Walter Reed Army Medical Center, 1955-1956; and Chief Psychiatry and Neurology Consultant, Office of the Surgeon General, 1956-present. Fellow: American Psychiatric Association. Awards: Legion of Merit, and Bronze Star Medal.

GOLDSMITH, ALAN E., Lieutenant Colonel, United States Air Force.

Instructor, Weapons Orientation Branch, Orientation and Employment Division, Atomic Weapons Training Group, Field Command, DASA. Attended San Francisco State College, 1940-1942; United States Air Force Navigator School, 1944; United States Air Force Bombardment School, 1949; Sacramento Junior College, 1949; Sacramento State College, 1950-1951; United States Air Force Aircrew School (Interceptor), 1951; Air-Ground Operations School, 1954; and Air Command and Staff School, 1957. Navigator, 384th Bomb Group, 8th Air Force, England, 1944-1945; 306th Bomb Group "Casey Jones" Project, Istres, France, 1945-1946; Radar Operator, 325th All Weather Fighter Group, Hamilton Air Force Base, 1947-1948; Instructor, Central Instructor School, United States Air Force Bombardment School, Mather Air Force Base, 1949-1951; Chief, Interceptor and Bomber Defense Section, Aircraft Observer and Special Weapons Training Branch, and Flying Training Division, Headquarters United States Air Force, 1951-1954; Chief, Navigator Training Branch, Flying Training Division, Headquarters CONAC, Mitchel Air Force Base, 1954-1956; Director of Plans and Programs, Headquarters 6146th Air Force Advisory Group, Seoul, Korea, 1957-1958; and Instructor, Weapons Orientation Branch, Orientation and Employment Division, AWTG, 1958-present.

GOLDSTEIN, JOSEPH D., Lieutenant Colonel, Medical Corps, United States Army.

Consultant to the Surgeon General for Nuclear Energy, Army Medical Research and Development Command. B. S. (Chemistry), University of Iowa, 1928; M. D., University of Iowa, 1932; internship and residency in internal medicine in Iowa and New Jersey, 1933-1934; Atomic Medicine Course (Duke University and Oak Ridge, Tennessee), 1950-1951; and Armed Forces Staff College, 1954. Civilian practice, also attending physician in internal medicine, Medical Center, Jersey City, and concurrently, Instructor, Post-Graduate Hospital, Columbia University, New York City, 1934-1940; served with the 44th Division, 1940-1946; returned to civilian practice and as attending physician and concurrently as an instructor, 1946-1950; commissioned in Army, 1950, served with Surgical Division, Medical Battalion, 28th Division, 1951-1952; Assistant Plans Officer and Professor-Consultant, Medical Section, Headquarters Seventh Army, 1952-1954; Deputy Chief, Division of Atomic Casualties Studies, Walter Reed Army Institute of Research, 1955-1956; Chief, Division of Atomic Casualties Studies, 1956-1960, with additional duty in 1958 of Chief, Wound-Analysis Section, Operation PLUMBBOB; and Consultant to the Surgeon General for Nuclear Energy, Army Medical Research and Development Command, 1960-present. Member:

American Academy of Allergy, American Medical Association, New Jersey Allergy Society, and New York Allergy Society. Awards: Bronze Star Medal.

HANSEN, CARL L., JR., Lieutenant Colonel, Medical Corps, United States Air Force.

Aerospace Medicine Division, Directorate of Professional Services, Office of The Surgeon General, Department of the Air Force. A. B., American International College, 1943; M. D., Tufts University School of Medicine, 1946; graduate of Aviation Medicine, USAF School of Aviation Medicine, 1950; graduate, Radiobiology Course, Reed College and Oak Ridge, 1952-1953; and Ph. D., Radiation Biology, University of Rochester, 1960. Internship, Springfield Hospital, Springfield, Massachusetts, 1946-1947; residency training, Internal Medicine, Fitzsimmons Army Hospital, 1949, and at Letterman Army Hospital, 1950. Member: Aerospace Medicine Association, American Medical Association, Radiation Research Society, and Society of Sigma Xi.

HARRIS, PAYNE S., M. D.

Alternate Group Leader, Biomedical Research Group, Los Alamos Scientific Laboratory. B. S., University of Illinois; and M. D., University of Illinois. Assigned to Biomedical Research Group, Los Alamos, by the United States Army, 1949; permanent Staff Member and Leader of the Biophysics Section, 1954; Consultant to the Surgeon General, United States Army; Consultant to the Surgeon General, United States Air Force; and Alternate Group Leader, Biophysics Section, 1958-present. Member: Scientific Advisory Board of the United States Army.

HEKHUIS, GERRIT L., Colonel, United States Air Force.

Chief, Department of Radiobiology, Brooks Air Force Base.

HERTFORD, KENNER F., Major General, United States Army (Retired).

Manager, Albuquerque Operations Office, U.S. Atomic Energy Commission. Graduate of United States Military Academy, 1923; Engineers School, 1923; Cornell University, 1926; and National War College, 1947. Instructor, Mathematics, United States Military; Staff Officer, Office of the Chief of Engineers, 1941; served on General Staff, War Department; Deputy Commander, United States Army Forces, South Atlantic; Military Adviser, San Francisco Conference; Military Staff Committee, United Nations; Armed Forces Special Weapons Project, Sandia Base, 1948-1952; Director, Test Operations, Atomic Energy Commission; Chief, Research and Development, United States Army, Washington, D. C. (retired from the Army, 1955); and Manager, Albuquerque Operations Office, U.S. Atomic Energy Commission. Awards: Distinguished Service Medal, Legion of Merit, and U.S. Atomic Energy Commission's Distinguished Service Award.

JACOBUS, DAVID P., M. D.

Chief, Department of Radiobiology, Division of Nuclear Medicine and Chemistry, Walter Reed Army Institute of Research, Walter Reed Army Medical Center. (See page 22.)

KINCANNON, M. T.

Technical Advisor to Assistant Deputy Chief of Staff, Atomic Weapons Training Group.

KNAUF, GEORGE M., Colonel, Medical Corps, United States Air Force.

Surgeon, Air Force Missile Test Center, Patrick Air Force Base. (See page 22.)

LANGHAM, WRIGHT H., Ph. D.

Leader, Biomedical Research Group, Los Alamos Scientific Laboratory. B.S., Panhandle A & M College; M.S., Oklahoma A & M College; and Ph. D., University of Colorado. Research Chemist, Chicago Metallurgical Laboratory, 1943-1944; Los Alamos Scientific Laboratory, 1944-1946; and Leader, Biomedical Research Group, Los Alamos Scientific Laboratory, 1947-present. Outstanding achievements: Directed early studies pertaining to the toxicology of plutonium and tritium, and in the past few years contributed considerably to the study of worldwide fallout problems. Member: Board of Directors, Health Physics Society; Board of Directors, Radiation Research Society; Chairman, Subcommittee on the Relative Biological Effectiveness of Ionizing Radiation; Subcommittee on Internal Dosage, International Commission of Radiation Protection; and Subcommittee on Toxicity of Internal Emitters, National Academy of Sciences.

LIFTON, S. ELLIOT, Colonel, Medical Corps, United States Air Force.

Chief, Biophysics Division, Research Directorate, Air Force Special Weapons Center, Kirtland Air Force Base; also, Senior Flight Surgeon, AFSWC. A.B., Dartmouth College, 1941; M.D., Dartmouth Medical School and New York University Medical School, 1943; internship, Queen's General Hospital, New York; Senior Flight Surgeon, 1956; and Radiobiology Course, Reed College, 1956-1957. Resident Surgeon, Montefiore General Hospital, New York, 1945; Base Surgeon, Tachikawa Air Force Base, Japan; Commanding Officer, 801st Medical Air Evacuation Squadron, Tachikawa, Japan; Chief of Surgery, Hospital JAMA, Tachikawa, Japan; Flight Surgeon, Eglin Air Force Base, Florida; Air Task Group Surgeon, Joint Task Force 132 (Operation GREENHOUSE, Eniwetok); Flight Surgeon, Bolling Air Force Base, Washington, D.C.; Joint Task Force Surgeon, Joint Task Force 7 (Operation IVY, Eniwetok); Special Weapons Defense Officer, Surgeon General's Office, Headquarters USAF; Deputy Chief and Assistant Chief, Biophysics Division, Research Directorate, AFSWC, 1945-1960; and Chief, Biophysics Division, Research Directorate, AFSWC, and also Senior Flight Surgeon, 1960-present. Awards: Commendation Ribbon.

MAUPIN, CLINTON S., M.D. (Colonel, Medical Corps, United States Army (Retired)).

Medical Director, Reynolds Electric & Engineering Company, Nevada Test Site. A.B., B.S., and M.D., University of Oklahoma, 1926-1934; and postgraduate study in radiology, Reed College, 1949. Surgeon, Field Command, AFSWP, 1951-1955; Task Force Surgeon, Operation CASTLE; Member, Advisory Panel to Test Manager, Operations TEAPOT and PLUMBBOB; Special Assistant to the

Surgeon General for Nuclear Energy, Office of the Surgeon General, Department of the Army, 1955-1960; and since retirement, Medical Director, Reynolds Electric & Engineering Company, Nevada Test Site, 1960-present. Awards: Legion of Merit, Bronze Star Medal, and Commendation Ribbon with Metal Pendant.

McDONNEL, GERALD M., M. D. (Lieutenant Colonel, Medical Corps, United States Army (Reserve)).

Associate Professor of Radiology, Department of Radiology, School of Medicine, University of California Medical Center, Los Angeles, California. A. B., University of Utah, 1941; M. D., Temple University, 1943; and graduate of Atomic Medicine Course, University of Rochester, 1949. Commissioned Second Lieutenant, Field Artillery Reserve, United States Army, 1941; duty at the Los Alamos Scientific Laboratory; Atomic Energy Project Officer, University of Rochester; Surgeon, Armed Forces Special Weapons Project; as Project Officer, Biomedical Program, Project 4.1, Department of Defense Test Group, participated in the majority of nuclear weapons tests series at Eniwetok and Nevada; and since retirement, Associate Professor of Radiology, Department of Radiology, School of Medicine, University of California Medical Center, Los Angeles, California, 1959-present.

MEYER, DEAN D.

Leader, Health Physics Group, Los Alamos Scientific Laboratory.

MONCRIEF, WILLIAM H., JR., Lieutenant Colonel, Medical Corps, United States Army.

Chief, Surgical Services, Womack Army Hospital. B. S., Military Academy, 1942; M. D., Emory University, 1944; and diplomate, American Board of Surgery and American Board of Thoracic Surgery. Chief, Professional Program (Project 4.1), Operation PLUMBBOB, 1957; Chief, Professional Program (Project 4.2), Operation HARDTACK II, 1958; Project Officer, Biomedical Task Force, and Director, Division of Surgery, Walter Reed Army Institute of Research, 1959-1960; and Chief, Surgical Services, Womack Army Hospital, 1960-present.

PHILLIPS, JAMES A., Ph. D.

Group Leader, P-14 Group, Physics Division, Los Alamos Scientific Laboratory, Los Alamos, New Mexico. B. S., Carleton College, Minnesota, 1946; M. S., University of Illinois, 1942; and Ph. D., University of Illinois, 1949. Research Graduate Assistant, University of Illinois, 1942-1943; Technical Supervisor, Tennessee Eastman Company for The Manhattan Project, Oak Ridge, Tennessee, 1944-1945; Research Graduate Assistant, 1945-1948; and Staff member, Los Alamos Scientific Laboratory, 1949-present. Outstanding achievements: Measured fusion cross-sections of hydrogen isotopes, 1950-1952; connected with Project Sherwood since its conception in 1952; and U. S. Representative, Second International Conference on Peaceful Uses of Atomic Energy, 1958. Member: American Nuclear Society; American Physical Society; Organizing Executive Committee, Division of Plasma Physics, American Physical Society; and Sigma Xi.

ROSS, DOUGLAS A., M. D.

Chief of Medical Physics, Medical Division, Oak Ridge Institute of Nuclear Studies. B. S., M. S., and Ph. D., McGill University, Montreal, Canada; M. D., Harvard University; and preclinical medical study, University of Chicago. Instructor, Radio Physics, McGill University; Special Research Associate, Psycho-Acoustic Laboratory, Harvard University (doing research in auditory acoustics and speech-transmission systems); Assistant Professor of Physiology, Medical School, University of Tennessee, 1953-1956; and Chief of Medical Physics, Medical Physics, Medical Division, Oak Ridge Institute of Nuclear Studies (directing research in testing equipment, testing methods of clinical isotope work, and radiation therapy), 1956-present.

VOGEL, EDWARD H., JR., Colonel, Medical Corps, United States Army.

Commanding Officer, United States Army Surgical Research Unit, Brooke Army Medical Center. B. S. (Medicine), University of Texas, 1937; M. D., University of Texas, 1940; Fellow in surgery, Tulane Medical School; Residency in surgery, Valley Forge Army Hospital, 1949-1950; and certified by American Board of Surgery, 1956. Post Surgeon, Quarry Heights, Canal Zone, 1941-1943; Ward Officer, Surgical Service, 203d General Hospital, Europe, 1943-1945; Executive Officer, Surgeon's Office, Bremen, Germany, 1945-1946; Administrator of Army Epidemiology Board and Surgical Section, Research and Development Division, Office of the Surgeon General, 1946-1947; Assistant PMS & T (Medical), 1947-1949; Assistant Chief, Surgical Service, United States Army Hospital, Fort Sill, 1950-1953; Resident Surgeon, Tripler Hospital, Hawaii, 1953-1955; Chief, Surgical Service, United States Army Hospital, Fort Meade, 1955-1957; and Commanding Officer, United States Army Surgical Research Unit, Brooke Army Medical Center, 1957-present.

WHITE, CLAYTON S., M. D.

Director of Research, Lovelace Foundation for Medical Education and Research, and concurrently, Member of Active Staff, Bataan Memorial Hospital. A. B., University of Colorado, 1934; A. B., University of Oxford (Rhodes Scholar), England, 1938; M. D., University of Colorado, 1942; internship at School of Medicine and Hospitals, University of Colorado, and at Colorado General Hospital, 1942-1943, and Aviation Medicine Course (with flight training and designation as Flight Surgeon), United States Naval School of Aviation Medicine, 1944. Instructor of Psychology, University of Colorado, 1934-1935; Instructor of Physiology, University of Colorado, 1940-1941; Medical Officer and Flight Surgeon, Medical Corps, United States Navy, 1943-1947; Member of Active Staff, Lovelace Clinic, 1947-1950; and Director of Research, Lovelace Foundation for Medical Education and Research, and concurrently, Member of Active Staff, Bataan Memorial Hospital, 1950-present. Outstanding achievements: Consultant, Douglas Aircraft Company and Chance-Vought Aircraft, Inc., and Chairman, Aeromedical Panel of the United States Air Force Scientific Advisory Board. Fellow: Aeromedical Association and American Association for the Advancement of Science. Member: Aeromedical Association, Alpha Omega Alpha, American Board of Preventive Medicine (specializing in aviation medicine), American Medical Association, Bernalillo County Heart Association,

Bernalillo County Medical Society, New Mexico State Medical Society, Nu Sigma Nu, Phi Beta Kappa, Sigma Xi, Society for Experimental Biology and Medicine, and Space Medicine Association of the Aeromedical Association.

JACOBUS, DAVID P., M. D.

Chief, Department of Radiobiology, Division of Nuclear Medicine and Chemistry, Walter Reed Army Institute of Research, Walter Reed Army Medical Center. M. D., University of Pennsylvania, 1953. Internship and residency, Hospital of University of Pennsylvania, 1953-1955; joint appointment to Department of Medicine, University of Pennsylvania, 1956-1957; Walter Reed Army Institute of Research, 1958-1959; and Chief, Department of Radiobiology, Division of Nuclear Medicine and Chemistry, Walter Reed Army Institute of Research, 1959-present.

KNAUF, GEORGE M., Colonel, Medical Corps, United States Air Force.

Surgeon, Air Force Missile Test Center, Patrick Air Force Base; Commander, 6550th USAF Hospital, Patrick Air Force Base; Director, Occupational Health Research Laboratory, Patrick Air Force Base and Cape Canaveral; and also Consultant to the Surgeon General in the field of biological effects of microwave energy. M. D., Hahnemann Medical College, Philadelphia, Pennsylvania, 1934. Entered the Service in 1940; served in various capacities in the North Solomons, New Guinea, China, Formosa, Luzon, and the South Philippines; Commander, United States Air Force Hospital, Griffiss Air Force Base; Surgeon for Rome Air Force Depot; Deputy Director, Technical Services for Applied Ecology, Rome Air Development Center; and presently: Surgeon, Air Force Missile Test Center, Patrick Air Force Base; Commander, 6550th USAF Hospital, Patrick Air Force Base; Director, Occupational Health Research Laboratory, Patrick Air Force Base and Cape Canaveral; and Consultant to the Surgeon General. Outstanding achievements: Chairman, Tri-Service Conference on Biological Effects of Microwave Energy; Chairman, Ad-Hoc Committee on Biological Effects of Microwave Energy; and Assistant for Bioastronautics, Staff of the Department of Defense Representative for the support of Project Mercury. Awards: Legion of Merit, Bronze Star Medal, Asiatic-Pacific Campaign Medal with 9 stars, World War II Victory Medal, National Defense Service Medal, Korean Service Medal, United Nations Service Medal, Japanese Occupation Medal, and Philippine Presidential Unit Citation.

CONNOR, JOSEPH A., JR., Lieutenant Colonel, Medical Corps, United States Air Force.

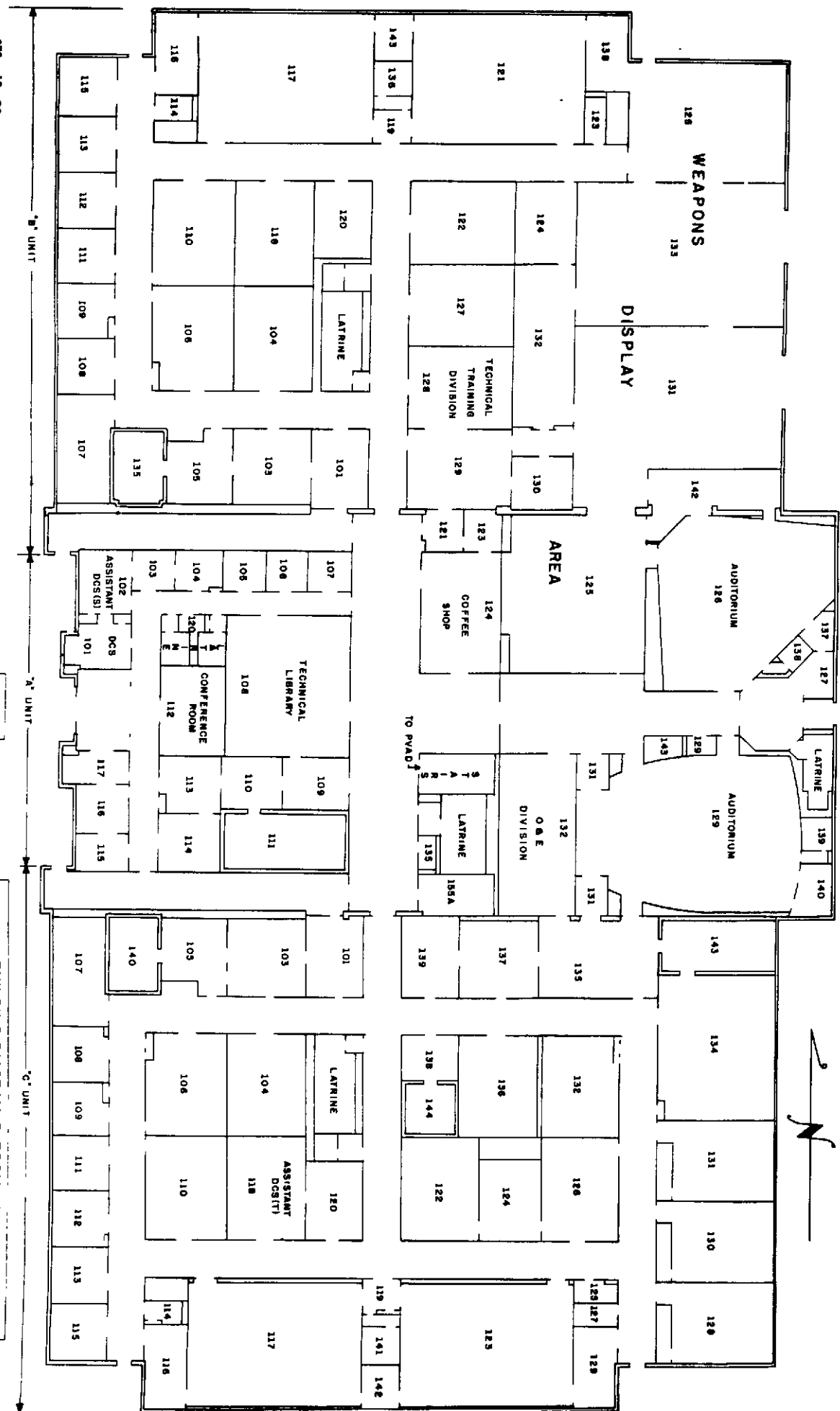
Chairman, Aerospace Nuclear Safety Board, Division of Reactor Development, United States Atomic Energy Commission; and concurrently Life Sciences Project Officer, Missile Projects Branch, Aircraft Nuclear Propulsion Office. M. D., George Washington University, 1943; graduate of United States Air Force School of Aviation Medicine, 1945; diplomate, American Board of Preventive Medicine, 1955; rated Senior Flight Surgeon, 1956; and postgraduate study in Nuclear Medicine and Radiobiology, 1958-1959. Deputy Surgeon, 7th Air Force; Surgeon, 7th Fighter Wing; Surgeon, 7th Air Division; and Base Surgeon, Wheeler Air Force Base, Hawaii, 1945-1948; Resident and Teaching Fellow in Medicine, George Washington University Hospital, 1948-1951, and also Professor of Military Science and Tactics, School of Medicine, George Washington

University, 1949-1951; Acting Chief of Aviation Medicine, Office of The Surgeon General, United States Air Force, 1951-1952; Supervisor, Aviation Medicine Resident Training Program, Langley Air Force Base, Virginia, 1953-1955; Commander, and Director of Professional Services, United States Air Force Hospital, Clark Air Base, Philippines, 1955-1957; Commander, 509th (SAC) Tactical Hospital, and Director of Professional Services, United States Air Force Hospital, Walker Air Force Base, Roswell, New Mexico, 1957-1958; and Chairman, Aerospace Nuclear Safety Board, Division of Reactor Development, United States Atomic Energy Commission, and concurrently, Life Sciences Project Officer, Missile Projects Branch, Aircraft Nuclear Propulsion Office, 1958-present.

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GUARD
STATION

BUILDING 602 - ATOMIC WEAPONS TRAINING GROUP



HELPFUL TELEPHONE NUMBERS

<u>Sandia Base</u>	<u>Office</u>	<u>Quarters</u>
Major General Harold C. Donnelly, USAF Commander, Field Command, DASA	38115	22184
Rear Admiral Joseph D. Black, USN Deputy Commander	38111	44175
Brigadier General Dwight B. Johnson, USA Deputy Commander	35114	29281
Colonel Cordes F. Tiemann, USAF Chief of Staff	38113	48184
Colonel Savino W. Cavender, MC, USA Surgeon	27115	46184
Colonel Samuel A. Otto, USA DCS, Atomic Weapons Training	39226 or 46227	36291
Colonel Harry Balish, USA Commanding Officer, Sandia Base	38134	22177
Colonel Wilbur W. Hiehle, USA Commanding Officer, Base Hospital	35218	33188
Base Transportation Office, Passenger Section Onbase Sedan Service	22217 or 47228 38137	
Officers' Mess Bar Officers' Mess Office	26176 20168 or 20169	
BOQ Billeting Office	43111 44102 36274	
Staff Duty Officer, Field Command Staff Duty Officer, Sandia Base	38127 or 28223 38227 or 38228	
VIP Orderly, Building 2000 VIP Orderly, Building 2010	33222 43111	
Visitors' Bureau	33122	
<u>Kirtland Air Force Base</u> (Dial 81 for Kirtland)		
Major General Charles M. McCorkle, USAF Commander, Air Force Special Weapons Center	(81) 2444	(81) 3818
Colonel Carey L. O'Bryan, Jr., USAF Deputy Commander	(81) 3341	(81) 3092
Colonel Marion R. McCrackin, USAF Commander, Kirtland Air Force Base	(81) 2600	(81) 3793
Airdrome Officer (Dispatch and Operations)	(81) 2743 or (81) 3583	
Base Operations	(81) 3104 or (81) 3269	
Motor Transportation (Official Taxi Service)	(81) 2901 or (81) 3378	