

BUMED Oral History Project
Captain Eileen Franke Villasante, Ph.D., CAPT, MSC, USN, Ret.
Head, Malaria Department
Naval Medical Research Center

Date and Location of Interview: 15 May 2013, Naval Medical Research Center, Silver Spring, Maryland.

Interviewers: COL Richard V.N. Ginn, USA, Ret. and Mr. André B. Sobocinski

Synopsis

CAPT Villasante was born in 1956 and raised in Long Island New York, where her parents had emigrated from Germany after World War II. At an early age she evidenced a great interest in biology, and she participated in biology research projects during the summers of her high school years. She earned a B.S. in biology from the State University of New York at Albany in 1978, and a Ph.D. in biology from the University of Notre Dame in 1982, where she also played soccer in the South Bend Soccer League. Selection for a post-doctoral fellowship at the Walter Reed Army Institute in Washington, D.C. from 1982-1984 introduced her to the potential for medical research in the military, and in 1984 she received a direct commission as a Navy lieutenant.

The first half of her Navy career was in medical research assignments in a series of alternating overseas and stateside posts focused on parasitology and tropical medicine. Following completion of the Naval Officer Indoctrination School, she was assigned from 1985-1987 to the U.S. Naval Medical Research Unit No. 2 in Jakarta, Indonesia, as head of the Departments of Immunology and Parasitology. This was followed in 1987-1992 as head of the Department of Parasitology at the Naval Medical Research Institute (NMRI) Detachment in Lima, Peru. There she met her future husband, Ronald Villasante, an architect. Their daughter, Camila, is entering Johns Hopkins University in the fall where she will major in biology. CAPT Villasante returned to the States in 1992 as a parasitologist/immunologist in the malaria program of the NMRI in Bethesda, MD. She went overseas again from 1996-1999 as the Scientific Director of NMRU No. 3 in Cairo, Egypt.

In the second half of her Naval career Dr. Villasante served in a series of positions at the senior management and program levels of military medical research. From 1999-2001 she was the Director of Product Development for the Malaria Program and the Director of Field Laboratories for the Naval Medical Research Center (NMRC) in Silver Spring, MD, followed by duty as

a project manager at the U.S. Army Medical Materiel Development Activity, Fort Detrick, MD. From 2004-2008 she was the Navy Medical R&D Liaison to the Military infectious Diseases Research Program of the U.S. Army Medical Research and Materiel Command at Fort Detrick. From 2004-2008 she was stationed at BUMED as the Special Assistant to the Navy Surgeon General for Research programs and the Director of the Human Research Protection Program

She was then assigned as the Executive Officer of NMRC, during a period marked by major consolidations under the BRAC legislation. She retired from the Navy in 2011, and is currently employed as the head of the Malaria Department of the NMRC.

Key Words

leishmaniasis research
malaria vaccine research
military medical research
Navy medical research
Navy medical research laboratory in Ghana
Navy overseas medical research laboratories
parasitology research
tropical disease research
WWII German refugees in the U.S.

Key Figures

Arthur, Donald, M.D., VADM, MC; Surgeon General, U.S. Navy, 2004-2007

Berman, Jonathan D, (Josh), M.D., Ph.D., CAPT, MC, USA, Ret.; at the time of his retirement he was Research Coordinator for the Malaria Drug Program and Chief of the Biology Department, Walter Reed Army Institute of Research. Following retirement from the Navy he was Director of Clinical and Regulatory Affairs, National Center for Complementary and Alternative Medicine, National Institutes of Health.

Carney, W. Patrick, Ph.D., CAPT, MSC, USN, Ret. parasitologist, from 1987-1991, Director of Graduate Programs, Uniformed Services University of the Health Sciences (USUHS), Bethesda, MD.

Gardiner, Chris (Hank), CAPT, MSC, USN: parasitologist; Commanding Officer, Medical Training Battalion, Camp Pendleton, CA, 1995-1998.

Haberberger, Richard L., Ph.D., CAPT, MSC, USN, Ret. Commanding Officer, NMRC, 2009-2012.

Hoffman, Stephen L., M.D., Ph.D., CAPT, MC, USN, Ret; USN 1987-2001, BA, University of Pennsylvania; M.D., Cornell Medical

College; board certification American Board of Family Medicine; Diploma in Tropical Medicine and Hygiene from the London School of Hygiene and Tropical Medicine. When he retired from the Navy he was Director of the Malaria Research Program, NMRC. Currently he is CEO of Sanaria, Inc.

Mahoney, Frank, M.D., CAPT, PHS: Senior Medical Epidemiologist, Centers for Disease Control: Head, CDC Office, Indonesia 2007-2011; Chief Medical Officer Polio Response 2011-present.

Ritchie, Thomas L., M.D., Ph.D., CAPT, MC, USN, Ret. Formerly Research Coordinator, Military Malaria Vaccine Program, NMRC.

Robinson, Adam M., Jr., M.D., VADM, MC, Surgeon General, U.S. Navy, 2007-2011; retired 1 Jan 2012.

Sanders, John W. III, M.D., CAPT, MC, USN: Commanding Officer, NMRC, September 2012- present.

Savarino, Stephen J., MD. CAPT, MC, USN; Head Enteric Diseases Department, NMRC; Savarino and colleagues developed a vaccine for ETEC bacteria (Travelers' Diarrhea).

Sedegah, Martha, Ph.D.; Senior Scientist, Malaria Research Program, NMRC.

Singer, Tim, Ph.D., Director, Navy Research Protections, Office of Naval Research.

Winter, Donald C.: Secretary of the Navy, 2006-9; from 2000-2002 was president and CEO of TRW Systems, and upon its acquisition by Northrop Grumman in 2002 he became president of Northrop Grumman's Mission Systems sector.

Glossary

Acanthamoeba: a genus of amoeba frequently found in fresh water that can cause encephalitis.

Andoas, Peru: city in northern Peru located close to the border with Ecuador.

BRAC: Base Realignment and Closure; acts of Congress to close military installations; BRAC 2005 directed closure of Walter Reed Army Medical Center and its consolidation with the National Naval Medical Center, Bethesda, MD, as the Walter Reed National Military Medical Center, at Bethesda.

CDC: Centers for Disease Control, Atlanta, GA; an agency of the Department of Health and Human Services.

Corcoran Gallery of Art: largest privately supported cultural institution in Washington, D.C.

CRADA: Cooperative Research and Development Agreement; a legal agreement between the government and a private company to work together on a research and development project; the

private corporation may file for patents and the government gets a license to those patents.

Cuscos, Peru: (also spelled Cuzcos); city in southeastern Peru.

DDR&E: the Director of Defense Research and Engineering is the Assistant Secretary of Defense for Research and Engineering, the senior DOD official responsible for oversight of DOD technology strategy.

DNA prime/adenovirus boost malaria vaccine: a genetically engineered vaccine

DOD: Department of Defense

DON-HRPP: Department of the Navy Human Research Protection Program

filariasis: a parasitic disease (usually an infectious tropical disease) caused by roundworms

Gates Foundation: Bill and Melinda Gates Foundation, established in 1994 as the William H. Gates Foundation: the largest transparently operated private foundation in the world. Its primary global aims are to enhance healthcare and reduce extreme poverty; and in the United States, to expand educational opportunities and access to information technology.

HRPP: Human Research Protection Program

in vitro: from the Latin "in glass"; biology "test tube" experiments conducted with components of an organism isolated from their usual biological surroundings; as opposed to *in vivo* studies of living organisms in their normal intact state, or *ex vivo* studies conducted on functional organs that have been removed from the intact organism.

Irian Jaya (now called West Papua); the western peninsula of New Guinea, Indonesia.

leishmaniasis: infectious disease caused by the *Leishmania* parasite, a one-celled protozoan parasite that is transmitted by female sand flies; is found in many tropical and subtropical countries; symptoms include skin lesions that resemble leprosy.

malaria: infectious disease spread by the female Anopheles mosquito which injects into the human the parasite of the genus *Plasmodium* that travels to the liver where it multiplies and breaks out into the red blood cells causing the acute phase of the disease. Most deaths are caused by the species *P. falciparum* and *P. vivax*. The World Health Organization estimates that in 2011, 216 million people contracted malaria, there were 625,000 deaths, and it was the major cause of death of African children who died before the age of five.

Malaria Vaccine Initiative: see MVI

MIDRP: Military Infectious Disease Research Program, a program conducted by the USAMRMC to protect U.S. military personnel from naturally occurring infectious diseases through the development of vaccines, drugs, and diagnostic procedures, as well as repellents and insecticides.

Monsters Inside Me: A television documentary about parasites that live on or in humans, originally broadcast in 2009 on the Animal Planet channel

MTF: medical treatment facility

MVI: Malaria Vaccine Initiative, established in 1999 as a global program of the international nonprofit organization, PATH, through a grant by the Gates Foundation

Naval Medical Research Center, Silver Spring, MD (formerly the NMRI).

NAMRU: Naval Medical Research Unit: at the time of the interview there were five NAMRUs:

NAMRU-2: Pearl Harbor, Hawaii (dis-established 2013); currently a laboratory in Phnom Penh, Cambodia.

NAMRU-3: Cairo, Egypt

NAMRU-6: Lima, Peru

NAMRU-D: Dayton, Ohio

NAMRU-SA: San Antonio, Texas

NAMRU-2: Established during WW II at Rockefeller University, New York, NY in 1944, and opened a laboratory in Guam in 1945; was re-established as a Naval research lab in Taepei, Taiwan in 1955. Recognition of the Peoples Republic of China forced its departure from Taiwan in 1979 and it relocated to Manila, the Philippines. In 1991, it relocated to Jakarta, Indonesia, and in 2002 established research activities in Phnom Penh, Cambodia. The Indonesia government requested its closure in 2010, and it relocated to Pearl Harbor, HI in 2010, where it was disestablished in 2013. It currently operates a laboratory in Phnom Penh, Cambodia (NAMRU-2 PP).

NAMRU-SA: in 2013 consists of three programs: Combat Casualty Care, Bio-Effects, and Dental & Biomedical.

NIH: National Institutes of Health

NMRI: (pronounced NAMRI): Naval Medical Research Institute, Bethesda, Maryland; now the Naval Medical Research Center

Naegleria: a protozoa genus; *Naegleria fowleri*, also known as the "brain-eating amoeba", is typically found in warm bodies of fresh water, such as ponds, lakes, rivers, and hot springs.

Noguchi Memorial Institute of Medical Research: an institute of the University of Ghana, located in Accra, Ghana; the original facility was a gift from Japan in memory of Dr.

Hideyo Noguchi, who identified syphilis as the cause of progressive paralytic disease.

norovirus: very contagious virus, most common cause of gastroenteritis

OIS: Officer Indoctrination School (later renamed Officer Development School), U.S. Navy Training Command, Newport, Rhode Island.

ONR: Office of Naval Research

ovalocytosis: human hereditary trait manifested by the presence in the blood of red blood cells that are oval in shape.

PATH: Program for Appropriate Technology in Health, an international nonprofit organization with the goal of transforming global health through innovation; founded in 1977 as PIACT, or Program for the Introduction and Adaptation of Contraceptive Technology. It has been known as PATH since 1981.

PfSPZ vaccine: Malaria vaccine developed by Sanaria; Pf stands for *Plasmodium falciparum* SPZ stands for sporozoite.

Plasmodium yoelli: parasite of the genus *Plasmodium*; like all *Plasmodium* species, *P. yoelii* has both vertebrate and insect hosts. The vertebrate hosts for this parasite are mammals. Its most notable feature is that it is used in the laboratory to infect mice, as a model of human malaria, particularly with respect to the immune response.

primaquine: a treatment for malaria; was issued in combination with chloroquine to U.S. soldiers in southeast Asia during the Vietnam war as a prophylaxis for malaria.

Prospective Executive Officer Course: two week course conducted at the Command Leadership School, Newport, RI.

RTS,S: A malaria vaccine candidate under development.

Sanaria, Inc.: biotechnology company formed to develop a *Plasmodium falciparum* malaria vaccine, and has shown early success with the PfSPZ vaccine. CEO is Stephen L. Hoffman, M.D., Ph.D., CAPT, USN, Ret. His wife, Kim Lee Sim, Ph.D., is the Vice President for Process Development and Manufacturing.

Sulawesi: island in Indonesia situated between Borneo and the Makuka Islands; is the eleventh largest island in the world.

schistosomiasis: "snail fever", a parasitic disease caused by a fresh water snail-borne parasite of several *Schistoma* species; is most common in Asia, Africa and South America

Science: (also *Science Magazine*); academic journal of the American Association for the Advancement of Science (AAASP).

SEAP: Science and Engineering Apprenticeship Program, sponsored

by the American Society for Engineering and the Department of Defense, is an eight-week summer program for high school students conducted at Army and Navy research facilities.

sporozoite: the immature, infectious form of the malaria parasite that is injected into the human by the Anopheles mosquito and travels to the liver.

TCCC: Tactical Combat Casualty Care Course conducted by the Naval Expeditionary Medical Training Institute, Camp Pendleton, CA; is pre-deployment training for hospital corpsman to provide medical care in a combat environment; includes live tissue (pig) training.

USAID: United States Agency for International Development, the U.S. agency primarily responsible for administering civilian foreign aid; technically an independent agency, its administrator works under the direct authority and foreign policy guidance of the Secretary of State

USAMMDA: U.S. Army Medical Materiel Development Agency; a subordinate unit of the U.S. Army Medical Research and Materiel Command, both located at Fort Detrick, MD; is the U.S. Army executive agent for the development of new drugs, vaccines, and medical devices for service members.

USAMRMC: U.S. Army Medical Research and Materiel Command, Fort Detrick, MD, is the Army's medical materiel developer, with responsibility for medical research and development, acquisition, and medical logistics management.

WHO: World Health Organization, a specialized United Nations organization for international public health; established in 1948 with headquarters in Geneva, Switzerland.

Whitecoats: Army conscientious objector soldiers, generally Seventh Day Adventists, who joined the Army for utilization in Operation Whitecoat, a program from 1954-1973 for volunteer subjects in medical research studies conducted by the USAMRMC (at time the USAMRDC), by the U.S. Army Medical Research Institute of Infectious Disease (USAMRIID) at Fort Detrick, MD. These soldiers enlisted for duty as medics, and after basic medical training at Fort Sam Houston, were assigned to the USAMRDC. .

Wuchereria bancrofti: a parasitic filarial roundworm that causes lymphatic filariasis