



David Burton Slemmons, HMAEG

(1924-2017)

**Edited (June, 2017) by the Association Committee on Memorials, Biographies
& Citations from the original Nomination (2004) for Dr. Slemmons as a
Candidate for Election to Honorary Membership**

By

John W. Bell
Member, AEG Great Basin Section

Robert J. Watters
Member, AEG Great Basin Section

William R. Lund
Member, AEG Intermountain Section

James L. Werle
Member, AEG Southwestern Section

"Burt" Slemmons was born December 31, 1922 in Alameda, California to Gladys Dorothy (Hinton) Slemmons and Claude Hayes Slemmons. He grew up in Oakland and graduated from Fremont High School. During World War II he served in the U.S. Army and spent 10 months' Occupation duty in the Corps of Engineers in Japan and South Korea. He met the love of his life, Ruth Marillyn Evans, at a USO dance and they were married in 1946. Ruth worked to support him while he completed his B.S. in Economic Geology in 1947. He received a Ph.D. in Geology in 1953, from the University of California Berkeley

Burt had a long and distinguished career involving many elements of engineering geology, including in particular seismology, paleoseismology, environmental geology, earthquake hazard and risk assessment. It is currently unclear as to which California university at which Burt was enrolled before being commissioned in the U.S. Army, but it is likely that he was one of the nationally huge number of cadet students assigned under the Army's "College Boys" program of being identified by high scores on his Armed Forces Test Battery (AFTB). As a result of the great German surge in Belgium, in 1944 (resulting in the Battle of the Bulge) most of the cadet students were assigned as riflemen in the European Theatre Infantry Divisions.

Burt appears to have been far enough along to qualify for commissioning and was sent to the Pacific Theater. After release from Active Duty Burt enrolled at the as-yet unidentified campus, graduating in 1947.

As a fresh doctorate holder, Burt began his lifelong academic career at the Mackay School of Mines, University of Nevada, Reno, as Assistant Professor, teaching courses in petrology and petrography.

At that time Burt was also asked to supervise the University of Nevada Seismographic Station (now the Seismological Laboratory) where he was Director from 1952 to 1964. When a series of large magnitude earthquakes occurred in central Nevada in 1954, Burt was one of the first geologists to get into the field, compile detailed fault surface-rupture maps, and document the geological effects of the earthquakes. Although never initially intending for his research to depart from his training in economic geology, these events nonetheless directed Burt on a different path for the remainder of his career, and he became regarded as an international expert in the study of active faulting for engineering geologic purposes.

During his years at the University of Nevada and until his retirement in 1989, Burt became involved in many engineering projects, both nationally and internationally, where he applied his expertise as a consultant and advisor. His experience included providing remote sensing and seismic design criteria for nearly two dozen dams, commonly in collaboration with the US Army Corps of Engineers. He was instrumental in evaluating the seismic design for numerous pipeline projects, including the design for the Trans-Alaska Pipeline which successfully withstood large surface displacements along the Denali fault during the M 7.9 earthquake in 2002. During the 1970s and 1980s Burt was heavily involved in evaluating active fault criteria for more than 10 nuclear power plant sites and was a consultant to the US Atomic Energy Commission and the US Nuclear Regulatory Commission.

On the other end of the nuclear power life-cycle, Burt was involved with multiple high- and low-level nuclear waste repository projects. From 1986-1989, he was Director of the University of Nevada Neotectonics Center and team leader for the State of Nevada seismic hazard investigations at the Yucca Mountain Nuclear Waste Repository Site.

During that time, Burt supervised over 50 masters and doctoral students, and conducted research in earthquake geology and engineering, authoring or co-authoring over 200 professional papers. He was forever dedicated to furthering his students' education and experience, securing grants and hiring them as assistants.

Following his retirement, Burt continued to be involved in seismic assessment issues at Yucca Mountain, including being a member of the US Department of Energy Seismic Source Characterization Expert Panel. The results of these many, varied activities are reflected in the more than 80 scientific papers that Burt wrote on the subjects of earthquake magnitude and fault-rupture assessments, earthquake-hazard assessment, design-magnitude earthquakes, and seismic potential in inter- and intra-plate tectonic settings.

Burt's teaching expertise and enthusiasm was legendary within the Department of Geological Sciences and Engineering at UNR. A major reason for this was his knack of incorporating both his undergraduate and graduate students into his research and consulting activities. His teaching portfolio utilized many of his case histories from his ongoing research. The immediacy of his research to issues of public safety and policy generated enthusiasm and debate among his students. As a leader in assessment of active tectonics he was a mentor to many of the professionals who now hold senior level positions in academia and industry.

After retiring from the University of Nevada, Burt moved to Las Vegas where he has established himself as the local expert on active faulting in the southern Nevada region. He continued to be active in all aspects of seismic hazard and serves on the Board of Directors for the Nevada Earthquake Safety Council. He was an active member of the AEG Southwestern Section, and he continued to be a contributor to many AEG sponsored activities, including seismic hazard workshops, field trips, and publications. Burt was the Technical Program Co-Chair for the 2005 annual AEG meeting in Las Vegas, at which he was invested as an Honorary Member of our Association.

In "retirement, "Burt enjoyed fishing, swimming, gardening, investing, and photography, and had a lifelong love of geology and seismology. He was known for his enthusiasm, friendliness, generosity, humor, appetite, love of storytelling, and sense of adventure.

Burt is survived by his children, David Robert Slemmons of Norman, Oklahoma, and Mary Anne Slemmons (Jim Baldwin) of Juneau, Alaska; grandchildren Sarah Mabry Agnew (Brendan) of Norman, Oklahoma, Claire Geneva Slemmons Baldwin (Brian McHenry) of Juneau, Alaska, Cody Shawn Robert Baldwin of Juneau, Alaska, and David Michael Slemmons of Norman, Oklahoma, great-granddaughter Marian Rose Slemmons Agnew of Norman, Oklahoma, and niece Jean Slemmons Stratford (Juri Statford) and their son Ian. Burt was preceded in death by his wife, Ruth Marillyn Slemmons and his brother Claude Neil Slemmons.

Burt Slemmons has clearly left an indelible mark on the field of applied active fault studies, and his expertise has benefited the design and construction of many engineered projects world wide during his lengthy career.