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James Freeman Gilbert was born in Vincennes, Indiana, August 9, 1931. He married Sally Bonney Gilbert; they have 3 children. He received a B.S. from MIT in 1953 and a Ph.D. (geophysics) in 1956. He was a National Science Foundation Postdoctoral Fellow and research associate at MIT 1956-1957. He was an assistant, then associate professor at University of California, Los Angeles and served at the UCLA Institute of Geophysics (1957-1959). He served for two years as a senior researcher at Texas Instruments, Inc. In 1961, he was recruited by Walter Munk and became a professor of Geophysics at the Institute of Geophysics and Planetary Physics (IGPP) at the Scripps Institution of Oceanography, UCSD. He served as chairman of the Graduate Department, SIO 1988-1991, and served as associate director of IGPP 1976-1988.

Gilbert is a leading expert in seismic research, including earthquake source mechanisms, and is a director for a global network of seismic stations studying large-scale earth movements. He developed a general theory of inverting geophysical data, with his colleague Geoge Backus, that has been successfully applied to earthquake recordings. He established the IDA network with his colleague Jonathan Berger beginning in 1975. That effort contributed to the verification of underground nuclear explosions which contributed to a relaxation of the arms race. His work as a scientist and his knowledge of scientific computing is consequently central to the national interests. He has served on committees of national scientific agencies and has testified to Congress on the impact of the information age in science (1985) and on international affairs.

Freeman Gilbert has been actively involved in University of California academic, faculty senate and administrative activities since his arrival in La Jolla in 1961, the year the Academic Senate, Southern Section, San Diego division was organized. He played an important role in the reorganization of SIO which followed the creation of UCSD. He served as the first chair of the Department of Earth Sciences. This gave him a wide view of the operation of UCSD as it developed, and he became deeply committed to the shared governance at the campus.

Gilbert's knowledge of computer science was essential to the success of geophysics at SIO. He was a proponent of computing both at SIO and UCSD. He led the successful effort to obtain a Prime computer for the Scripps campus in 1979. His colleagues at Scripps credited the Prime facility as providing low-cost scientific computing power at Scripps. Gilbert was an organizer and vocal proponent of the UCSD Supercomputer Center and served a leadership role in the policies and development of the program of the Center.

Gilbert worked throughout his career at UCSD/SIO to build and strengthen the curriculum. He taught courses in geophysics and served as Faculty Research Lecturer at UCSD in 1991-1992. His familiarity with curriculum development reaching back to the founding days of UCSD brought continuity to earth science curriculum at UCSD. Gilbert advised and mentored many seismologists Jon Berger, Ray Buland, Ben Chao, Tony Dahlen, Don Helmberger, Guy Masters, and Jeffrey Park

Gilbert served the University of California systemwide on visiting committees to review programs in geophysics, physical laboratories and research institutes. He served on committees evaluating research facilities and academic programs at other universities and could consequently compare UC facilities with research facilities and academic programs in the United States and abroad.

Gilbert received many honors including the William Bowie Medal which was presented on June 2, 1999, in Boston. The medal recognizes outstanding contributions to fundamental geophysics and unselfish cooperation in research. Gilbert received the 2004 Medal of the Seismological Society of America which is awarded "for outstanding contributions in seismology and earthquake engineering."