



Dr. Charles Elachi, Director of JPL

Dr. Charles Elachi was born April 18, 1947 in Lebanon. He received a B.S. in physics from the University of Grenoble, France and the Diplome Ingenieur in engineering from the Polytechnic Institute, Grenoble in 1968 where he graduated first in the class, and M.S. and Ph.D. degrees in electrical sciences from the California Institute of Technology, Pasadena in 1969 and 1971, respectively. He later received an MBA from USC (1978) and an M.S. degree in geology from UCLA (1983).

He is the Director of the Jet Propulsion Laboratory and Vice President of California Institute of Technology. He is a Professor of Electrical Engineering and Planetary Science at Caltech. He taught "The Physics of Remote Sensing" at the California Institute of Technology from 1982 to 2000. Elachi was Principal Investigator on numerous research and development studies and flight projects sponsored by the National Aeronautics and Space Administration (NASA). He was Principal Investigator for the Shuttle Imaging Radar series (SIR-A in 1981, SIR-B in 1984, and SIR-C in 1994), was a Co-Investigator on the Magellan imaging radar, and is presently the Team Leader of the Cassini Titan Radar experiment, and a Co-Investigator on the Rosetta Comet Nucleus Sounder Experiment. He is the author of over 230 publications in the fields of space and planetary exploration, Earth observation from space, active microwave remote sensing, electromagnetic theory, and integrated optics, and he holds several patents in those fields. In addition, he has authored three textbooks in the field of remote sensing. One of these textbooks has been translated into Chinese.

In his 30 year career at JPL, Dr. Elachi played the lead role in developing the field of spaceborne imaging radar which led to Seasat, SIR-A, SIR-B, SIR-C, Magellan, SRTM and the Cassini Radar. He received numerous national and international awards for his leadership in this field.

During the late 80's and 90's, as the Director of Space and Earth Science programs, Dr. Elachi was responsible for the definition and development of numerous JPL flight instruments and missions for Solar System Exploration, the Origins program, Earth Observation and Astrophysics.

In the mid to late 90s, Dr. Elachi chaired a number of national and international committees which developed NASA roadmaps for the exploration of neighboring Solar Systems (1995), our Solar System (1997), and Mars (1998).

In January 2001, Dr. Elachi was appointed as the Director of the Jet Propulsion Laboratory and Vice President of Caltech.

Dr. Elachi has received numerous awards, including the International von Kármán Wings Award (2007), the America's Best Leaders by *U.S News & World Report* and the Center for Public Leadership at Harvard University's Kennedy School of Government (2006), the Royal Society of London Massey Award (2006), the Lebanon Order of the Cedars (2006), the Philip Habib Award for Distinguished Public Service (2006), the American Astronautical Society Space Flight Award (2005), the Bob Hope Distinguished Citizen Award (2005), NASA Exceptional Service Medal (2005), the NASA Outstanding Leadership Medal (2004, 2002, 1994), the Takeda Award (2002),

the Wernher Von Braun Award (2002), the UCLA Department of Earth and Space Science Distinguished Alumni Award (2002), Dryden Award (2000), the NASA Distinguished Service Medal (1999), the COSPAR Nordberg Medal (1996), the Nevada Medal (1995), the IEEE Medal of Engineering Excellence (1992), the IEEE Geoscience and Remote Sensing Distinguished Achievement Award (1987), the W.T. Pecora Award (1985), the NASA Exceptional Scientific Medal (1982), and the ASP Autometric Award (1982, 1980).

In 1988, the *L.A. Times* selected him as one of "Southern California's rising stars who will make a difference in L.A."

In 1989, Asteroid 1982 SU was renamed 4116 Elachi in recognition of his contribution to planetary exploration.

In 1989, at the age of 42, he was elected to the National Academy of Engineering (NAE). In 1993-1995 he was a member of the NAE 4th Decadal Committee. In 1995, he chaired the NAE membership committee. He served on numerous NAE committees. In July 2007, he was elected as Councillor of the NAE for a three year term and is also a member of the NAE Executive Council for a one year term.

He is a fellow of IEEE and the American Institute of Aeronautics and Astronautics (AIAA), and is a member of the International Academy of Astronautics (IAA).

He was a member of the University of Arizona Engineering School Advisory Committee and the Boston University Center of Remote Sensing Advisory Council. He is a member of the UCLA Science Board of Visitors.

Dr. Elachi participated in a number of archeological expeditions in the Egyptian Desert, the Arabian Peninsula, and Western Chinese Desert in search of old trading routes and buried cities using satellite data, some of which were featured in *National Geographic* magazine.

He has lectured and given keynote speeches at numerous international conferences and universities inside and outside the U.S., including Australia, Austria, Brazil, China, Denmark, Egypt, England, France, Germany, Greece, Holland, China, Japan, India, Ireland, Italy, Kenya, Monaco, Morocco, and Switzerland. He also was a speaker at the Caltech Alumni Day and the Watson Lectures.

He is married to Valerie Gifford and has two daughters, Joanna and Lauren. His outside interests include skiing, woodworking, reading historic books, and traveling. He is a member of the Pasadena Twilight Club and chaired the JPL United Way Campaign in 1988-1989.