

NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

BIOGRAPHICAL DATA SHEET

NAME: Owen K. Garriott

ORAL HISTORY: 6 November 2000

EDUCATIONAL BACKGROUND:

B.S. in Electrical Engineering, University of Oklahoma, Norman, Oklahoma, 1953
M.S. in Electrical Engineering, Stanford University, Palo Alto, California, 1957
PhD in Electrical Engineering, Stanford University, Palo Alto, California, 1960

PRE-NASA CAREER:

Electronics Officer, United States Navy (1953-1956)
Stanford University, Palo Alto, California
Associate Professor, Department of Electrical Engineering (1961-1965)
Consulting Professor, Department of Electrical Engineering (1965-present)

NASA CAREER:

NASA Manned Spacecraft Center/ Johnson Space Center, Houston, Texas
Scientist-Astronaut, Astronaut Office (1965-1986)
Deputy Director, Science and Applications Office (1974-1976)
Director, Science and Applications Office (1977)
Assistant Director, Space Science (1977-1983)
Program Scientist, Space Station Program Office (1984-1986)

POST-NASA CAREER:

Stanford University, Palo Alto, California
Consulting Professor, Department of Electrical Engineering (1965-present)
Teledyne Brown Engineering, Huntsville, Alabama
Vice President, Space Programs (1986-1993)
Immutherapeutics, Inc., Huntsville, Alabama
Co-founder, President (1993-present)

CURRENT OCCUPATION:

Immutherapeutics, Inc., Huntsville, Alabama
President

MISSIONS:

Skylab II (SL-3)

- Crew: Commander Alan L. Bean, Pilot Jack R. Lousma, Science Pilot, Owen K. Garriott
- Launched: 28 July 1973 at 7:10:50.5 A.M. EST from Kennedy Space Center
- Duration: 59 days, 11 hours, 9 minutes, 4 seconds

- Landed: 25 September 1973 at 6:20 P.M. EDT in the Pacific Ocean
- Mission Highlights: Achieved 150% of the scientific goals and demonstrated the feasibility of long-duration spaceflights exceeding two months.

STS-9 (*Columbia*)

- Crew: Commander John W. Young, Pilot Brewster H. Shaw, Mission Specialist Owen K. Garriott, Mission Specialist Robert A. Parker, Payload Specialist Byron K. Lichtenberg, Payload Specialist Ulf Merbold
- Launched: 28 November 1983 at 11:00 A.M. EST from KSC
- Duration: 10 days, 7 hours, 47 minutes, 24 seconds
- Landed: 8 December 3:47:24 P.M. PST, Edwards AFB, CA
- Mission Highlights: First flight of Spacelab. First use of Tracking and Data Relay Satellite system. First time six people flew in space simultaneously. First European Space Agency representative in space. Set record for shuttle mission duration (10 days).

PROFESSIONAL & HONORARY SOCIETIES:

- Fellow, American Astronautical Society (AAS)
- Member, American Geophysical Union
- Member, Institute of Electrical and Electronic Engineers
- Member, Tau Beta Pi
- Member, Sigma Xi (Honorary Scientific Society)
- Member, International Scientific Radio Union (URSI)
- Member, American Association for the Advancement of Science

AWARDS & CITATIONS:

- National Science Foundation Fellowship, 1960-1961
- NASA Distinguished Service Medal, 1973
- Honorary Doctorate of Science, Phillips University, Enid, Oklahoma, 1973
- City of Chicago Gold Medal, 1974
- Robert J. Collier Trophy, 1974
- Federation Aeronautique Internationale's V. M. Komarov Diploma, 1974
- Dr. Robert H. Goddard Memorial Trophy, 1975
- Education for Public Management Fellowship at Stanford University, 1975-1976
- Elected to the International Academy of Astronautics, 1975
- NASA Space Flight Medal, 1983
- Hermann Oberth Award, 1989

SELECT PUBLICATIONS:

Abelson, Phillip H., Steven V. W. Beckwith, William P. Bishop, Radford Byerly, Jr., Lawson Crowe, Peter Dews, John A. Dutton, Owen K. Garriott, Jonathan Lunine, and Molly K. Macauley. Setting Priorities for Space Research: Opportunities and Imperatives. Washington DC: National Academy of Sciences, 1992.

- Garriott, Owen K. "Scientific and technological research from manned space platforms." Modern Space Radio Science (1990): 37-43. Oxford, England: Oxford University Press.
- Abbott, Mark, Ted Albert, Lawrence Bolef, Stephen Brecht, John E. Estes, Giuseppina Fabbiano, Owen K. Garriott, John C. Gille, Elaine Hansen, and Christopher T. Russell. "Selected Issues in space science data management and computation." NASA Technical Report. NASA-CR-185374 (CASI 19900066155). Washington DC: National Academy of Sciences-National Research Council, 1988.
- Clifton, K. S., Owen K. Garriott, R. Gause, L. Leger, S. B. Mende, and G. R. Swenson. Space Vehicle Glow Measurements on STS 41-D. Palo Alto: Lockheed Missiles and Space Co., 1985.
- Garriott, Owen K., B. K. Lichtenberg, and R. A. R. Parker. "Payload crew members' view of Spacelab operations." Science. Vol. 225 (13 July 1984): 165-167.
- Garriott, Owen K., A. Konradi, and J. E. McCoy. Current Leakage for Low Altitude Satellites. Houston: NASA Johnson Space Center, 1979.
- Bernstein, W., Owen K. Garriott, and A. Konradi. Space Plasma Laboratory- Experiment in Simulated Ionospheric Plasma. Boulder: National Oceanic and Atmospheric Administration, 1978.
- Garriott, Owen K., R. B. Norton, and J. G. Timothy. "Molecular oxygen concentrations and absorption cross sections in the thermosphere derived from extreme ultraviolet occultation profiles." Journal of Geophysical Research. Vol. 82 (1 November 1977): 4973-4982.
- Garriott, Owen K. "Skylab report- Man's role in space research." Science. Vol. 186 (18 October 1974): 219-226.
- Cagle, E. H., D. L. Forsythe, and Owen K. Garriott. "Instruments, systems, and manned operations of the Apollo Telescope Mount." Astronautics and Aeronautics. (1971): 50-57.
- Da Rosa, A. V., Owen K. Garriott, and W. J. Ross. "Electron content from Faraday rotation and phase path length variations." Journal of Atmospheric and Terrestrial Physics. Vol. 32 (1 April 1970): 705-727.
- Almeida, O. G., A. V. Da Rosa, and Owen K. Garriott. "Determination of the columnar electron content and the layer shape factor of the plasmashere up to the plasmopause." Planetary and Space Science. Vol. 18 (1 February 1970): 159-170.
- Garriott, Owen K. "Role of the scientist-astronaut." Society of Experimental Test Pilots, Technical Review. Vol. 10 No. 2 (1 January 1970): 157-161.

- Da Rosa, A. V., M. J. Davis, and Owen K. Garriott. "Enhancement of ionizing radiation during a solar flare." Solar Physics Vol. 8 (1 July 1969): 226-239.
- Garriott, Owen K. and Henry Rishbeth. Introduction to Ionospheric Physics. New York: Academic Press, 1969.
- Da Rosa, A. V. and Owen K. Garriott. "Protonospheric electron concentration profiles Final report." NASA Technical Report. NASA-CR-100778 (CASI 19690015143). Palo Alto: Stanford University, 1969.
- Da Rosa, A. V., F. De Mendonca, and Owen K. Garriott. "Comments on local electron concentration determination from Doppler dispersion measurements of satellite radio beacons." Journal of Geophysical Research. Vol. 73 (1 February 1968): 1102-1106.
- Da Rosa, A. V., M. J. Davis, Owen K. Garriott, and O. G. Villard, Jr. "Solar effects in the ionosphere." Journal of Geophysical Research. Vol. 72 (1 December 1967): 6099-6103.
- Garriott, Owen K., F. L. Smith, III. "The rate of production of electrons in the ionosphere." Planetary and Space Science. Vol. 13 (August 1965): 829-838.
- Garriott, Owen K., F. L. Smith, and P. C. Yuen. "Observations of ionospheric electron content using a geostationary satellite." Planetary and Space Science, Vol. 13. (August 1965): 829-838.
- Eshleman, V. R., G. Fjeldbo, Owen K. Garriott, and F. L. Smith, III. "The two-frequency, bistatic radar-occultation method for the study of planetary ionospheres scientific reports no.1 and no. 7." NASA Technical Report. NASA-CR-64460 (CASI 19650022598). Palo Alto: Stanford University, 1965.
- Bhonsle, R. V., A. V. Da Rosa, and Owen K. Garriott. "Measurements of the total electron content and the equivalent slab thickness of the mid-latitude ionosphere." NASA Technical Report. NASA-CR-60710 (CASI 1966000611). Palo Alto: Stanford University, 1964.
- Garriott, Owen K., and H. Rishbeth. "Introduction to the ionosphere and geomagnetism technical report no. 8." NASA Technical Report. NASA-CR-60862 (CASI 19650007912). Palo Alto: Stanford University, 1964.
- Garriott, Owen K., and H. Rishbeth. "Effects of temperature changes on the electron density profile in the F2 layer." Planetary and Space Science. Vol. 11 (11 June 1963): 587-590.

De Mendonca, F., and Owen K. Garriott. "A comparison of methods used for obtaining electron content from satellite observations." NASA Technical Report. (CASI 19640008246). Palo Alto: Stanford University, 1963.

Garriott, Owen K., and F. De Mendonca. "Ionospheric effects on polarization and doppler shift of transit 2a satellite radio transmissions, permit the calculation of electron content." NASA Technical Report. (CASI 19630026293). Palo Alto: Stanford University, 1963.

Garriott, Owen K., S. C. Hall, R. S. Lawrence, and J. Posakony. "Electron content of ionosphere at middle latitudes near peak of solar cycle." NASA Technical Report. (CASI 19630007078). Boulder: National Bureau of Standards, 1963.

Garriott, Owen K., and R. F. Mlodnosky. "Vlf admittance of a dipole in the lower ionosphere." NASA Technical Report. (CASI 19620006347). Palo Alto: Stanford University, 1962.

Garriott, Owen K., and F. De Mendonca. "Effect of the Earth's magnetic field on measurements of the doppler shift of satellite radio transmissions." NASA Technical Report. (CASI 19620000075). Palo Alto: Stanford University, 1962.

Garriott, Owen K., and F. De Mendonca. "Ionospheric electron content calculated by a hybrid faraday-doppler technique." NASA Technical Report. (CASI 19620004910). Palo Alto: Stanford University, 1962.

Garriott, Owen K., and F. De Mendonca. " Effect of the Earth's magnetic field on measurements of the doppler shift of satellite radio transmissions." NASA Technical Report. (CASI 19620000074). Palo Alto: Stanford University, 1961.

Garriott, Owen K. "FLUID MECHANICS." NASA Technical Report. (CASI 19630042163). Palo Alto: Stanford University, 1960.

PATENTS:

U.S. Patent 5,228,644: "Solar Powered System for a Space Vehicle." 20 July 1993.

BIOGRAPHICAL REFERENCES:

NASA Biographical Data Sheet (October 1984), Owen K. Garriott Biographical File, History Collection, Scientific and Technical Information Center. Lyndon B. Johnson Space Center, Houston, TX.

Jones, Eric M. [Apollo Lunar Surface Journal Homepage], [Online], (3 December 1999 - Last Updated), Available: <http://www.hq.nasa.gov/office/pao/History/alsj/> [22 January 2000 - Accessed].

[United States Patent Office Homepage], [Online], (24 January 2000 - Last Updated), Available: <http://www.uspto.gov/patft/index.html/> [27 January 2000 - Accessed].

[NASA Galaxie Homepage], [Online], (n.d. - Last Updated), Available: <http://nasagalaxie.larc.nasa.gov/> [27 January 2000 - Accessed].

[NASA CASI Technical Report Server], [Online], (12 March 1999 - Last Updated), Available: <http://www.sti.nasa.gov/casitrs.html/> [25 January 2000 - Accessed].

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