

Curriculum Vitae
HERBERT V. FREY

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BORN: 16 April 1946, Philadelphia, PA USA

EDUCATION: 1968 - BA (*Astronomy*), Haverford College, Haverford, PA
1977 - PhD (*Astronomy*), University of Maryland, College Park, MD
[Thesis: *Crustal Evolution in the Early Earth: Basin-forming Impacts, Crustal Dichotomy, and Plate Tectonics*]

RESEARCH INTERESTS: *Planetary geology and geophysics, overland altimetry/topography, Crustal magnetic anomalies, early planetary crustal evolution, comparative planetology*

PRESENT POSITION: Chief, *Planetary Geodynamics Laboratory*, NASA/Goddard Space Flight Center

PREVIOUS POSITIONS:

1968 - 1977 *Teaching Assistant/Instructor/Research Assistant*, University of Maryland
1977 - 1979 *Research Associate*, NASA/Goddard Space Flight Center and Astronomy Program, University of Maryland College Park
1979 - 1989 *Staff Scientist*, Geophysics Branch, NASA/GSFC
1979 - 1979 *Associate Editor* (Planetology) IUGG Quadrennial Report
1981 - 1991 *Assistant Project Scientist*, Crustal Dynamics Project, NASA/GSFC
1988 - 1991 *Investigations Manager*, Crustal Dynamics Project, NASA/GSFC
1989 - 1989 *Program Manager* (acting), Geodynamics Program, NASA Headquarters
1989 - 1989 *Convenor*, Coolfont Workshop on NASA Solid Earth Science
1989 - 1992 *Staff Scientist*, Geodynamics Branch, NASA/GSFC
1992 - 1994 *Study Scientist*, Gravity and Magnetic Earth Surveyor (GAMES)
1996 - *Manager*, Solid Earth & Natural Hazards Program Support Office
2001 - 2001 *Chairman*, Mars Data Analysis Program Review Panel
2001 - 2004 *Manager*, Mars Data Analysis and Mars Fundamental Research Programs (NASA HQ)

RESEARCH POSITIONS

1979 - 1993 PI, *MAGSAT Crustal Magnetic Anomaly Studies*
1983 - 1995 PI, *Planetary Geology/Geophysics Program*
1985 - CoI, *Mars Orbiter Laser Altimeter (MOLA) Team*
1986 - 1991 PI, *Crustal Dynamics Project Investigations*
1987 - 1990 PI, *Mars: Evolution of Volcanism, Tectonism and Volatiles Study Project*
1988 - 1992 PI, *SEASAT/GEOSAT/TOPEX Overland Altimetry*
1995 - 1998 PI, *Topography and Surface Change Program*

SPECIAL AWARDS

Special Teaching Award, Astronomy Program, University of Maryland (1975)
 GSFC Special Achievement Award (1979)
 GSFC Performance Awards (1983, 1986, 1989, 1990, 1992, 1994, 1995, 1996, 2000, 2003, 2005)
 GSFC Performance Management and Recognition System Award (1993)
 GSFC Special Act Awards (1997, 1998, 1999, 2001, 2002, 2004a,b)

 GSFC Group Achievement Awards: *MAGSAT Investigation Team* (1983, 1989), *VLBI Experiment Team* (1985), *Crustal Dynamics Project* (1986), *Earthquake Response Team* (1990), *Crustal Dynamics VLBI Team* (1993), *Mars Global Surveyor Mars Orbiter Laser Altimeter Team* (1999)
 GSFC Special Service Award (*Geomagnetic Field Research Group*) (1990)
 GSFC Special Act Group Award (*Gravity and Magnetic Earth Surveyor (GAMES) Phase-A Study Team*) (1993)
 NASA Group Achievement Award (*Mars Global Surveyor - Mars Orbiter Laser Altimeter Team*) (2000)

PUBLICATIONS:

- Frey, H.V., Impact constraints on the age and origin of the crustal dichotomy of Mars (2005), *Geophys. Res. Lett.*, (submitted).
 Frey, H.V., Impact constraints on, and a chronology for, major events in early Mars history (2005), *J. Geophys. Res. (Planets)*, (submitted).
 Solomon, S.C., O. Aharonson, J.M. Aurnou, W.B. Banerdt, M.H. Carr, A.J. Dombard, H.V. Frey, M.P. Golombek, S.A. Hauck II, J.H. Head III, B.M. Jakosky, C.L. Johnson, P.J. McGovern, G.A. Neumann, R.J. Phillips, D.E. Smith and M.T. Zuber (2005), New perspectives on ancient Mars, *Science* 307, 1214-1220.
 Buczkowski, D.L., H.V. Frey, J.H. Roark and G.E. McGill (2005), Buried impact craters, a topographic analysis of quasi-circular depressions, Utopia Basin, Mars, *J. Geophys. Res.* 110, E03007, doi:10.1029/2004JE002324, 2005.
 Frey, H.V., R.J. Roark, K.M. Schockey, E.L. Frey and S.E.H. Sakimoto (2002), Ancient lowlands on Mars, *Geophys. Res. Lett.* 29, 1384, doi:10.1029/2001GL013832.
 Bradley, B.A., S.E.H. Sakimoto, H. Frey and J.R. Zimbelman (2001), The Medusae Fossae Formation, Mars: new views from Mars Global Surveyor data, *J. Geophys. Res. (Planets)* vol. ppp-ppp.
 Purucker, M., D. Ravat, H. Frey, C. Voorhies, T. Sabaka and M. Acuna (2000), An altitude-normalized magnetic map of Mars and its interpretation, *Geophys. Res. Lett.* 27, 2449-2452.
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 Sakimoto, S.E.H., H.V. Frey, J.B. Garvin and J.H. Roark (1999), Topography, roughness and slope properties of the Medusae Fossae Formation from Mars Orbiter Laser Altimeter (MOLA) Data, *J. Geophys. Res. (Planets)* 104, 24141-24144.
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- Baldwin, R.T. and H.V. Frey (1991), MAGSAT crustal anomalies for Africa: dawn and dusk data differences and a combined data set, *Phys. Earth Planet. Int.* 67, 237-250.
- Phillips, J.t., R.L. Reynolds and H. Frey (1991), Crustal structure interpreted from magnetic anomalies, *Rev. Geophys. Suppl.* (US National Report, 1987-199), 416-427.
- Frey, H.V., C.E. Doudnikoff and A.M. Mongeon (1991), Are Noachian-age ridged plains (Nplr) actually Early Hesperian in age? *Proceed. Lunar Planet. Sci. Conf.* 21, 635-644.
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- Schultz, R.A. and H.V. Frey (1990) A new survey of multi-ring impact basins on Mars, *J. Geophys. Res.*, 95, 14175-14189.
- Frey, H.V. and T.D. Grant (1990), Resurfacing history of Tempe Terra and surroundings, *J. Geophys. Res.* 95, 14249-14263.
- Brenner, A.C., H.V. Frey and H.J. Zwally (1990), Comparisons between GEOSAT and SEASAT tracking over non-ocean surfaces, *Geophys. Res. Lett.* 17, 1537-1540.
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- Frey, H. and R. A. Schultz (1988), Large impact basins and the mega-impact origin for the crustal dichotomy on Mars. *Geophys. Res. Lett.* 15, 229-232.

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