

Research Interests

- Origin and geologic evolution of the terrestrial planets, the moons of the giant planets, and of minor bodies
- Planetary stratigraphy and ages
- Impact processes and bombardment history of the planets and moons
- Mineralogical/chemical composition of planetary surface materials from spaced-based spectral measurements
- Design and construction of digital opto-electronic cameras and spectrometers

Academic Training

1969 Diploma in Physics, Chemistry, Mathematics (Univ. Heidelberg/MPI für Kernphysik)

1971 Dr. rer. nat. (Universitaet Heidelberg/Max-Planck-Inst. für Kernphysik, Heidelberg)

1983 Habilitation for Professorship in Geophysics/Planetary Sciences, LMU Munich

Professional Experience

1971-1976 Scientific Assistant, Max-Planck Inst. for Nuclear Physics, Heidelberg

1976-1981 Head, Planetology Group, Inst. for Gen. and Appl. Geology, LMU Munich

1981-1991 Head, Planet. Rem. Sens., Inst. for Optoelectronics, DLR Oberpfaffenhofen

1983-1989 Privatdozent LMU Munich

1990-1997 Professor for Planetary Sciences, Memb. Fac. Geosci., (LMU) Munich

1992-1993 Head, Section Planetary Research, Institute of Planet. Expl., DLR, Berlin

1993-1999 Director, Institute of Planetary Exploration, DLR Berlin

since 1997 also Prof. (C4) at Freie Universitaet Berlin (FU)

1999-2002 Co-Director of Inst. Space Sensor Technology and Planet. Exploration, DLR, Berlin

2001-2002 Managing Director, Inst. Space Sensor Technology and Planet. Exploration, DLR Berlin

since 2002 Professor of Planetary Sciences and Remote Sensing (C4) at Freie Univ. Berlin

since 2007 Managing Director, Inst. of Geosciences, Freie Universitaet Berlin

Externally Funded Projects (only for values >10kEUR), 2004 – 2008 (as Principal Investigator (PI), Co-Investigator (Co-I) or Team Member (TM))

2002-2004 68 k€ A.D.A.S (DFG), PI

2002-2007 310 k€ "Mars and the Terrestrial Planets", Chronostr. of Mars (DFG-SPP), PI

2003-2006 1.155 M€ HRSC MEX (BMBF/ DLR-Agency), PI

2003-2006 0.755 M€ ISS-Experiment Cassini-Huygens (2003-2007, BMBF/DLR-Agency), TM

2004-2005 50 k€ PR HRSC MEX (ESA), PI

2006-2007 132 k€ HRSCview (DLR-Agency), PI

2007-2009 2.245 M€ HRSC MEX Extension, PI

2008-2010 0.905 M€ ISS-Experiment Cassini-Huygens Extension, TM

2008-2013 654 k€ HGF-Alliance, Planetary Evolution and Life, Co-I

Awards & Nominations (selected)

1989 Otto-Lilienthal Prize; **1991-1993** NASA Awards (4): Galileo Orbiter; **1996** Recogn. Scient. Merits by IAU, Naming of Asteroid 1980 FR1 after "Neukum"; **1998** NASA Group Achievement Award, Cassini Program; **2002** Citation & Runcorn-Florensky Medal (EGS); **2003** ESA MEX Certificate; **2005** Gold. Wernher-von-Braun-Medaille am Bande (IFR/IAF)

Cooperation and Functions in Space Missions

1970-1977 Apollo Progr., Co-I, NASA; **1973-1977** NASA Planet. Geology Progr., Co-I; **1976** NASA Viking Flight Team Spec.I Part., JPL, Pasadena; **1977-1980** Co-I, Viking Guest Inv. Progr. NASA; **1977-1990** PI, NASA Planet. Geology Progr **1977-2002** Imaging Sci. Team Member, NASA Proj. Galileo; **1988-1996** PI, HRSC, Soviet Mars-96 Mission; **1988-1990** Co-I, Fregat Camera Exp., Soviet Phobos Mission; **since 1991** Imaging Sci. Team Member NASA/ESA Proj. Cassini/Huygens; **1992-1996** PI WAOSS Soviet Mars-96 Mission; **since 1997** Co-I, VIRTIS & ROLIS, Rosetta, ESA; **since 1999** PI, HRSC ESA MEX Mission; **since 2002** Co-I, NASA-Discovery Mission DAWN

Editorial Activities (selected)

1988 - 1990 Edit. Board, J. Geology; **1992 - 1998** Edit. Adv. Board, J. Planet. Space Sci. ;

2008 - 2009 Managing Guest Editor, Earth and Planetary Science Letters

Other Professional Services (selected 2004 - 2009)

2000 - 2007 Member, Scientific Advis. Board, Museum f. Naturkunde , Humboldt Univ.
since 2004 Member, Comm. for the Advancement of Solar System Science in Germany
since 2007 Member Expl., Sci. & Techn. Advisory Group (ESTAG), ESA
since 2009 Member Joint Instrument Definition Team (JIDT) for the ESA/NASA 2016 Mars Orbiter
since 2009 ExoMars Landing Site Working Team (LSWT), ESA

Selected International Invited Lectures (2004 - 2008)

2004 EGU; 35th COSPAR; **2005** MEX Science Conf; 36th LPSC; DPS; AGU Fall Meeting; **2006** EGU; First Int. Conf. on Impact Cratering, ESTEC; EPSC; 36th COSPAR; 37th LPSC; **2007** 7th Int. Conf. on Mars; GSA Annual Meeting; European Mars Sci. & Expl. Conf. ESA-ESTEC; AGU, Fall Meeting; **2008** EGU; 39th LPSC; 37th COSPAR; 3rd EPSC;

Administrative functions

since 2007 Managing Director, Institute of Geosciences, Freie Universitaet Berlin
2007-2009 Member, Geosciences Department Council
2007-2009 Member, Institute of Geosciences Council

10 Selected Peer- Reviewed Publications – no. of citations (status 5/2009) in parentheses

- Neukum, G.**, A. T. Basilevsky, T. Kneissl, M. G. Chapman, S. van Gasselt, G. Michael, R. Jaumann, H. Hoffmann, and J. Lanz (2009), The Geologic Evolution of Mars: Episodicity of Resurfacing Events and Ages from Cratering Analysis of Image Data and Correlation with Radiometric Ages of Martian Meteorites, *Earth and Planetary Science Letters*, **accepted for publication**.
- Jaumann, R., **G. Neukum**, T. Behnke, T. C. Duxbury, K. Eichertopf, J. Flohrer, S. van Gasselt, B. Giese, K. Gwinner, E. Hauber, H. Hoffmann, A. Hoffmeister, U. Köhler, K.-D. Matz, T. B. McCord, V. Mertens, J. Oberst, R. Pischel, D. Reiss, E. Ress, T. Roatsch, P. Saiger, F. Scholten, G. Schwarz, K. Stephan, M. Wählisch, and The HRSC Co-Investigator Team (2007), The high-resolution stereo camera (HRSC) experiment on Mars Express: Instrument aspects and experiment conduct from interplanetary cruise through the nominal mission, *Planetary and Space Science* **55** (7-8), 928-952, doi:10.1016/j.pss.2006.12.003. **(11)**
- Porco, C. C., P. Helfenstein, P. C. Thomas, A. P. Ingersoll, J. Wisdom, R. West, **G. Neukum**, T. Denk, R. Wagner, T. Roatsch, S. Kieffer, E. Turtle, A. McSween, T. V. Johnson, J. Rathbun, J. Veverka, D. Wilson, J. Perry, J. Spitale, A. Brahic, J. A. Burns, A. D. DelGenio, L. Dones, C. D. Murray, and S. Squyres (2006), Cassini observes the active South Pole of Enceladus, *Science* **311**(5766), 1393-1401, 10.1126/science.1123013. **(119)**
- Murray, J. B., J.-P. Muller, **G. Neukum**, S. C. Werner, S. Van Gasselt, E. Hauber, W. J. Markiewicz, J. W. Head, B. H. Foing, D. Page, K. L. Mitchell, G. Portyankina, and The HRSC Co-Investigator Team (2005), Evidence from the Mars Express High Resolution Stereo Camera for a frozen sea close to Mars' equator, *Nature* **434**, 352-356, doi:10.1038/nature03379. **(42)**
- Head, J. W., **G. Neukum**, R. Jaumann, H. Hiesinger, E. Hauber, M. Carr, P. Masson, B. H. Foing, H. Hoffmann, M. Kreslavsky, S. C. Werner, S. Milkovich, S. van Gasselt, and The HRSC Co-Investigator Team (2005), Tropical to Mid-Latitude Snow and Ice Accumulation, Flow and Glaciation on Mars, *Nature* **434**, 346-351, doi:10.1038/nature03359. **(69)**
- Neukum, G.**, R. Jaumann, H. Hoffmann, E. Hauber, J. W. Head, A. T. Basilevsky, B. A. Ivanov, S. C. Werner, S. van Gasselt, J. B. Murray, T. B. McCord, and The HRSC Co-Investigator Team (2004), Recent and Episodic Volcanic and Glacial Activity on Mars Revealed by the High Resolution Stereo Camera, *Nature* **432**, 971-979, doi:10.1038/nature03231. **(87)**
- Neukum, G.**, B. A. Ivanov, and W. K. Hartmann (2001), Cratering Records in the Inner Solar System in Relation to the Lunar Reference System, *Space Science Reviews* **96**, 55-86. **(56)**
- Hartmann, W. K., and **G. Neukum** (2001), Cratering Chronology and the Evolution of Mars, *Space Science Reviews* **96**, 165-194. **(225)**
- Neukum, G.**, and K. Hiller (1981), Martian ages, *J. Geophys. Res.* **86**, 3097-3121. **(132)**
- Neukum, G.**, and D. U. Wise (1976), Mars - A standard crater curve and possible new time scale, *Science* **194**, 1381-1387. **(146)**