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## DAVID F. BLAKE - NASA AMES RESEARCH CENTER

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### Related Experience Summary

Principal Investigator of CheMin XRD/XRF instrument, accepted for flight on Mars Science Laboratory (MSL) 2009. Member of Science Team, MSL 2009. Member, MEPAG Astrobiology Field Laboratory (2013) Science Steering Group. Currently funded research: (1). “CheMin: An XRD/XRF instrument in the Analytical Laboratory of MSL” (PI, MSL’09 mission). (2). “CheMin: A Definitive Mineralogical Instrument for Mars Astrobiological Investigations” (PI, ASTID program). (3). “Photosynthetic and Chemosynthetic Ecosystems” (Co-I, NAI; Dave DesMarais, PI). (4). “ASTEP Mars Analogue Svalbard Expedition (AMASE)” (Co-I). (5). “Powder Handling System for in-situ Planetary Instruments” (Co-I, ASTID program). (6). “Micromachined Scanning Electron Microscope and X-ray Spectrometer (MSEMS) (PI, PIDDP program). Previously funded research: PIDDP (3), ASTID (2), ASTEP (3), Exobiology (4), Cosmochemistry (3), Ancient Mars Meteorite Program, MIDDP.

### Employment History

2004–Present	Senior Research Scientist, NASA/ARC, Moffett Field, CA
1999–2003	Chief, Exobiology Branch NASA/ARC, Moffett Field, CA
1989–1998	Research Scientist, NASA/ARC, Moffett Field, CA
1986–1989	NRC Fellow, NASA/ARC, Moffett Field, CA
1985–1986	Analyst, Surface Science Laboratories, Mountain View, CA
1978–1984	Research Assistant, Microprobe Laboratory, University of Michigan
1973–1977	Officer, unrestricted line, US Navy; USS CONSERVER (ARS-39)

### Education

- Ph.D. 1984, Mineralogy, The University of Michigan, Ann Arbor, MI  
M.S. 1980, Geological Sciences, The University of Michigan, Ann Arbor, MI  
B.S. 1973, Biological Sciences, Stanford University, Stanford, CA

### Selected Relevant Publications

- Schulte, M., D. Blake, T. Hoehler and T. McCollom. 2006. “Serpentinization and its implications for life on the early Earth and Mars.” *J. Astrobiology* 6(2), 364–376.  
Sarrazin, P., D. Blake, S. Feldman, S. Chipera, D. Vaniman and D. Bish. 2005. “Field deployment of a portable XRD/XRF instrument on Mars analog terrain.” *Powder Diffraction* 20(2), 128–134.  
Treiman, A.H., H.E.F. Amundsen, David F. Blake and Ted Bunch. 2002. “Hydrothermal origin for carbonate globules in Martian meteorite ALH84001: A terrestrial analogue from Spitsbergen (Norway).” *Earth and Planetary Science Letters* 204, 323–332.  
Sarrazin, P., D. Blake, D. Bish, D. Vaniman, S. Chipera, S.A. Collins and S.T. Elliott. 2002. “Robotic search for ices and hydrous minerals at the lunar poles using a combined X-ray diffraction and fluorescence instrument.” *Planetary and Space Science*, 50, 1361–1368.  
Blake, D.F. & P. Jenniskens. “The Ice of Life.” *Scientific American*, 285 No. 2, 45–51, 2001.  
Blake, David F. 2000. ““Remote X-ray Diffraction and X-ray Fluorescence analysis on planetary surfaces” IN: *Advances in X-ray Analysis*, (43), 487–496.  
Vaniman, D., D. Bish, D.F. Blake, S.T. Elliott, P. Sarrazin, S.A. Collins and S. Chipera. 1998. “Landed XRD/XRF analysis of prime targets in the search for past or present Martian life,” *J. Geophys. Res.* 103(E13):31,477–31,489.  
Jenniskens, P., D.F. Blake and A. Kouchi. 1998. “Amorphous Water Ice: A Solar System Material,” 139–155, IN: *Solar System Ices* (B. Schmitt et al., eds.) Kluwer Academic Publishers, the Netherlands.  
Blake, D.F. and Katharine Kato. 1995. “Latitudinal distribution of carbon soot in the upper troposphere and lower stratosphere.” *Journal of Geophysical Research* 100(D4):7195–7202.  
Jenniskens, P. and David F. Blake. 1994. “Structural transitions in amorphous water ice and astrophysical implications.” *Science* 265:753–756.
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