

# The Martian Chronicle



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## Letter From the Editor

Welcome back to *The Martian Chronicle*. After a very long absence, we are again alive and well. As most of you may know, our last editor, David Dubov, left JPL for greener pastures last year. Now, under new direction, we are setting forth a new trail in the exploration of Mars.

Since our last newsletter, the Mars Exploration Office at JPL has been quite busy making changes. Of the two spacecraft launched before our last issue (April 1997), only Mars Global Surveyor still remains alive. Gone is the tremendously successful Mars Pathfinder spacecraft with its sidekick Sojourner, put quietly to rest in March 1998 when the last attempt failed to

communicate with the lander. But do not fret; the success of the Pathfinder mission left a legacy of goals for future missions to achieve. On the Internet alone, over 86 million people visited our site in a three-month span, surpassing any known Internet record of its time. Rocks such as Yogi, Scooby Doo, and Barnacle Bill are now as well known on Mars as the Grand Canyon is on Earth. The "little mission that couldn't" went well beyond what we ever imagined.

But the completion of Pathfinder does not mean the end of Mars exploration. Final preparations are now under way for the next two launches of spacecraft to Mars at the end of this

year. Future Mars missions are under development. Madame Curie, Sojourner's twin sister, is being proposed to fly on 2001. Athena, the next-generation rover, will fly on 2003, and a sample return mission is planned for 2005. These are thrilling times for Mars exploration, and *The Martian Chronicle* will be there to keep you posted about our missions. Stay tuned and climb aboard with us for the next journey to Mars.

*Dr. Bob Anderson  
MEP*



## Two Mars '98 Spacecraft Near Launch

The Mars Surveyor '98 mission is the third in NASA's Mars Surveyor Program to explore the mysterious Red Planet between 1997 and 2007. Mars Surveyor '98 is comprised of two spacecraft, the Mars Climate Orbiter and the Mars Polar Lander. The lander is destined for the south polar region of Mars, equipped with an array of science instruments designed to search for water and volatile materials in the soil and atmosphere, which may provide clues to the climate of Mars in the distant past. The orbiter will observe the atmosphere of Mars on a global scale, using specialized instruments to measure its composition and behavior.

The Mars Climate Orbiter will be launched in the period December 10-23, 1998, from Cape Canaveral Air Force Station in Florida. After a nine-

month journey, it will fire its main engine, braking into an elliptical, near-polar orbit. During the next two months, the orbiter will make many passes through the upper atmosphere of Mars to slow itself into a circular orbit with an altitude of just 410 km (255 miles) above the planet's surface. The orbiter will operate its instruments continuously over the course of a martian year (687 terrestrial days).

The Mars Polar Lander will be launched between January 3 and 27, 1999. Traveling at 6.9 km/s (15,400 mph), it will enter the martian atmosphere on December 3, 1999, after traveling nearly 930 million km (550 million miles) around the Sun. In only five minutes, the lander will decelerate from entry to a soft landing at about 2.2 m/s (5 mph), using an entry capsule and parachute for aerodynamic braking, followed

by a computer-controlled propulsive descent to touchdown. The lander will be targeted to the northernmost extent of a series of layered deposits in the south polar region, between 74 and 78 degrees south latitude. The lander's science experiments will be conducted during a three-month mission, beginning in late spring in the southern hemisphere (at arrival) and extending into early summer. The orbiter will also provide radio relay support to the lander during this period.

The Mars Surveyor '98 mission is managed for NASA by the Jet Propulsion Laboratory, California Institute of Technology.

*Dr. Sam Thurman  
Mars '98 Project*