Dr. Marc D. Rayman

Marc Rayman grew up in Toledo, Ohio and earned an A.B. in physics from Princeton University. His undergraduate work focused on astrophysics and cosmology. He received an M.S. in physics from the University of Colorado in Boulder, where he conducted investigations in nuclear physics. He then performed research at the Joint Institute for Laboratory Astrophysics (JILA) on experimental tests of special relativity and atomic and laser physics, and received his Ph.D. there. He continued at JILA as a postdoctoral researcher. He spent his six years at JILA working with Dr. John Hall, who subsequently won a Nobel Prize in Physics.

Dr. Rayman combined his scientific training with his lifelong study and interest in the exploration of space by joining NASA's Jet Propulsion Laboratory in 1986. His work there has spanned a broad range, including optical interferometry missions for detecting planets around other stars, a Mars sample return mission, a Mars laser altimeter, the Spitzer Space Telescope, and the development of systems to use lasers instead of radios to communicate with interplanetary spacecraft.

In 1994, he helped initiate a new NASA program to characterize highly advanced and risky technologies for future space science missions by flying them on dedicated test flights. The first mission of this New Millennium program, Deep Space 1, was launched in October 1998, and he worked on it from its inception in 1995 to its conclusion in 2001. During the course of the project, Dr. Rayman served as chief mission engineer, mission director, and project manager. The new technologies that were tested on DS1 (including such exotic systems as ion propulsion and artificial intelligence) were designed to reduce the cost and risk and to improve the performance of subsequent interplanetary missions. The primary mission was extremely successful and led to a very productive and exciting extended mission, culminating in a spectacular encounter with Comet Borrelly that yielded the best images that had ever been taken of the nucleus of a comet. The spacecraft remains in orbit around the Sun.

Now he is mission manager and chief engineer on a mission that builds on DS1 to study two of the largest unexplored worlds in the inner solar system. Launched in September 2007, Dawn will visit the two most massive asteroids, Ceres and Vesta, in an ambitious mission that should reveal much about the dawn of the solar system.

Dr. Rayman is the recipient of numerous honors. Among his awards from NASA are two Exceptional Achievement Medals and the Outstanding Leadership Medal. In addition, he is the only person to have won both the Exceptional Technical Excellence Award and the Exceptional Leadership Award, two of JPL's highest honors. Asteroid Rayman was named in recognition of his contributions to space exploration.

Marc's favorite hobby is learning about the space activities of all space-faring nations. Since before the age of 10, he has been building an extensive collection of information and memorabilia from over 40 nations. In addition to his technical publications, he has published many articles on Apollo, Skylab, the space shuttle, piloted and robotic missions of the former USSR, planetary missions, and a variety of topics in astrophysics, cosmology, and space

exploration for reference books, encyclopedias, magazines, and newspapers. He is also very active in NASA's education and public outreach. His DS1 blog (at http://nmp.jpl.nasa.gov/ds1/archives.html) had an enormous following and gained critical acclaim as it provided an entertaining and informative view into the flight of DS1, and his Dawn blog (at http://dawn.jpl.nasa.gov/mission/journal.asp) continues in the same style. Marc is technical advisor and a popular writer for NASA's educational website The Space Place (at http://spaceplace.nasa.gov, where his digital alter ego Dr. Marc resides). He has appeared frequently in television news broadcasts and has been quoted often in other news media on subjects as wide-ranging as DS1 and Dawn, the fire onboard Mir, the discovery of the top quark, and the profundity of humankind's exploration of the cosmos.

His other hobbies include international folk dancing (he and his wife teach and dance with the Pasadena Folk Dance Co-op), photography, hiking, cross-country skiing, and other outdoor activities. Marc also holds a black belt in karate. His wife, Dr. Janice Rayman, is a brain scientist and a very experienced mountaineer. They live in La Cañada, California with their cats Milky Way and Regulus, iguana Aurora, tropical fish, and a large variety of fauna and flora in their pond.