A Lunar Resting Place
By Kelsey Paquin

When Joe Vitale passed away from brain cancer on February 2, 2007, his family and friends knew that he would not soon be forgotten. His sense of humor, integrity, and heart left a permanent mark on those around him. Now, his Goddard family is remembering Joe by leaving a mark on his final project at NASA, the Lunar Reconnaissance Orbiter (LRO). They have engraved one of its reaction wheels in his honor.

Joe had been working as an engineer at NASA Goddard since 1993, most recently in Code 596 where he designed software used to support satellite missions. His last triumph at NASA was the completion of the embedded flight software in the LRO reaction wheels. His efforts were critical to the successful design of the spacecraft, as the reaction wheels will be used to direct it and keep it at the desired position and orientation once it is launched.

Russ Roder, LRO's reaction wheel lead, explains, "Each reaction wheel has a flywheel (big spinning mass). When the flywheel spins up in one direction, the spacecraft starts to spin very slowly in the opposite direction. If you put a few reaction wheels on a spacecraft, you can control pointing about all three axes."

When collecting information about the lunar environment on the level of detail that LRO will, such exacting control is all-important. This control would not be possible if not for the software Joe designed. So although he has passed, he will always be a part of LRO's success.

It seems appropriate to honor Joe, the self-dubbed "Gadget Man," through one of his own technological achievements. Miriam Wennersten, his long time co-worker and friend, says, "Joe was a man all about gadgets. He loved toys and games. He married his love of gadgets with his love of games. For his flight simulator games on the computer, he had the right joystick. For his driving games, he had the right steering wheel. When his wife would go out of town, he would go over to a friend's house, where they would 'geek out' and play computer games all night long."

The people touched by Joe were not limited to those directly around him. Shortly after receiving the startling news that he had a brain tumor, he decided he would share his story by creating a website to chronicle his journey. Through it, he was able to meet and connect with people

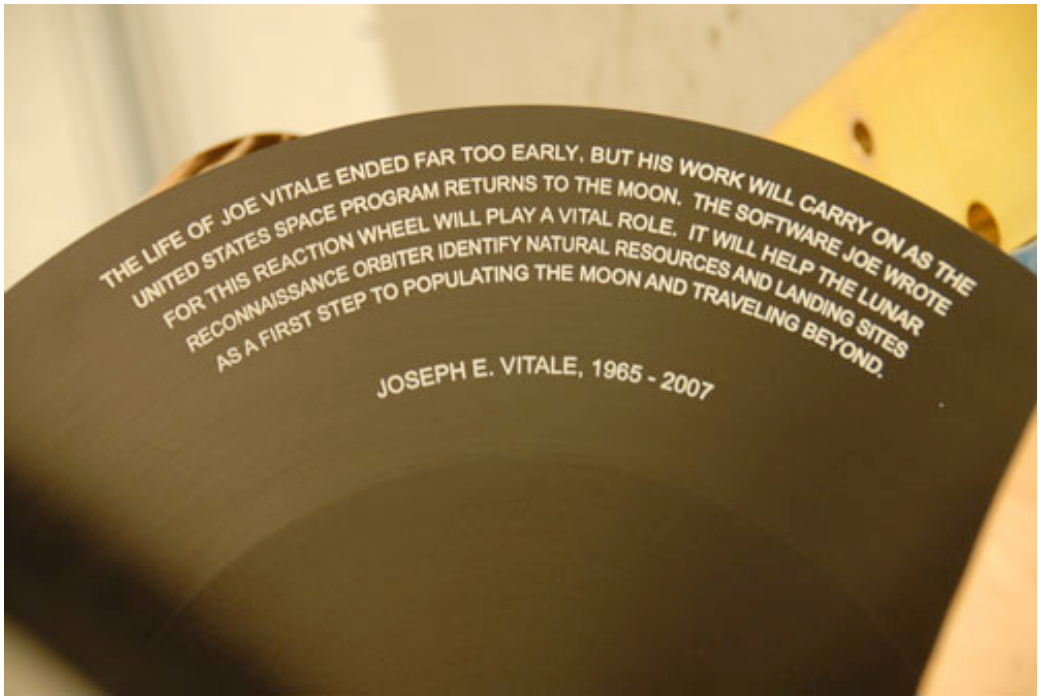
across the country. He constructed a prayer network by putting pushpins in a map at every place someone was known to be praying for him. About 200 pins crowded the map, displaying Joe's ability to reach even those he had never met face-to-face.

Joe's approach to his disease is described by Wennersten as, "Classic Joe Engineer." He faced it with the same problem-solving knack that he applied to his profession as an engineer. He did extensive research on his disease and kept track of the doctors he had seen and the questions he had asked of them. He tracked his medication dosages and changes and kept lists of helpful books he had read. True to his desire to share his story, Joe made all of this available on his website.

Chuck Clagett, Joe's supervisor, said, "As Joe's friend, I always had the highest respect for him because of his honesty and bluntness in any situation. When he saw someone or something being done wrong, he would always get involved to straighten it out. He was not driven by political correctness, only by uncovering the truth. That's a rare quality in today's environment and one that I admire. His loss is still felt within the Branch and LRO project. We will forever be blessed for the time we had Joe with us."

Joe's wife, Debbie, and children made a visit to Goddard in February to view the engraved reaction wheel. She expressed that she was pleased to see how LRO was progressing and that Joe would appreciate what the project office had done for him.

When LRO has run its course and served its purpose, it will be guided to a to-be-determined spot on the moon. The result of the impact will be a plume of debris that other satellites and telescopes can observe to find out more about the moon's composition. When the spacecraft reaches its final resting place, so will Joe's engraved reaction wheel.



Curator: Jennifer Brill
NASA Official: Keith Opperhauser