

Space age is indebted to inventor Tesla

by Robert Sberna
Sberna is a freelance writer

On the surface of Mars, about 80 million miles away, two Exploration Rovers are transmitting information about the red planet's atmosphere and geology to NASA scientists. Launched last summer, the two rovers, Spirit and Opportunity, are communicating with NASA through the use of high-frequency radio signals.

The building blocks for robotic vehicles such as the Mars rovers and the radio technology that enables their remote operation and data transmission

were both developed more than 100 years ago by Serbian inventor Nikola Tesla.

In 1898, Tesla amazed attendees at the Electrical Exposition in New York City when he first demonstrated the use of radio remote control to guide a robot. Along with his pioneering developments in radio waves and robotics, Tesla is credited with the invention of the alternating current system of electricity, which eventually supplanted Thomas Edison's direct current system.

Ana Stankovic, a professor in Cleveland State University's department of electrical and computer engineering, says

today's space explorers owe a debt of gratitude to Tesla. "Without his groundbreaking work, scientists wouldn't have the ability to get information from the Mars rovers," she explains.

A native of Serbia, Stankovic began her career at the Nikola Tesla Research Institute in Belgrade. At Cleveland State, she teaches the principles of electric machines and power electronics. "Tesla discovered the rotating magnetic field, which is the basis for most alternating current machinery, including the induction motor," Stankovic says. "It would be hard to imagine a world today without his inven-

tions."

Tesla, the son of a Serbian Orthodox priest, came to the United States in 1884 at age 30. Over the next 60 years, he was responsible for a multitude of inventions relating to radio devices, electrical transmission and electrical motors.

Tesla held 40 basic U.S. patents for his poly-phase alternating current system of generators, motors and transformers. He eventually sold his patents to industrialist George Westinghouse, who used Tesla's principles to implement the alternating current system throughout the U.S.

Dr. Ljubo Vujovic, a physician

who heads the Tesla Memorial Society of New York, says Tesla's discoveries continue to have significant impact on our daily lives.

"The best example of how Tesla's work affects us was seen during the electrical blackout that occurred throughout the East Coast and Midwest last August," he explains.

"When Tesla's alternating current was disrupted, America went back to the Stone Age. We had no way to power our subways, computers, air conditioning, elevators and other devices."

As Serbian-Americans, both Vujovic and Stankovic say they are proud of Tesla's contri-

bution to the U.S. and the world. Stankovic notes that Tesla migrated to the U.S. to take advantage of the financial resources available here for scientific research. "During that time, he was able to find support in this country for his work," she says. "Even today, many foreign scientists are drawn to the U.S. because of the research and development opportunities here."

Stankovic adds that Cleveland State University has plans to create an endowed chair in engineering named for Tesla.

For information about the life and work of Nikola Tesla, visit www.teslasociety.com.