

Nikola Tesla Biography

Nikola Tesla was born on July 10, 1856, in what is now Smiljan, Croatia. Tesla's interest in electrical invention was spurred by his mother, Djuka Mandic, who invented small household appliances in her spare time while her son was growing up. Tesla's father, Milutin Tesla, was a priest and a writer, and he pushed for his son to join the priesthood. But Nikola's interests lay squarely in the sciences. After studying at the Realschule, Karlstadt (later renamed the Johann-Rudolph-Glauber Realschule Karlstadt); the Polytechnic Institute in Graz, Austria; and the University of Prague during the 1870s, Tesla moved to Budapest, where for a time he worked at the Central Telephone Exchange. It was while in Budapest that the idea for the induction motor first came to Tesla, but after several years of trying to gain interest in his invention, at age 28 Tesla decided to leave Europe for America.

In 1884 Tesla arrived the United States with little more than the clothes on his back and a letter of introduction to famed inventor and business mogul Thomas Edison, whose DC-based electrical works were fast becoming the standard in the country. Edison hired Tesla, and the two men were soon working tirelessly alongside each other, making improvements to Edison's inventions. However, several months later, the two parted ways due to a conflicting business-scientific relationship, attributed by historians to their incredibly different personalities: While Edison was a power figure who focused on marketing and financial success, Tesla was commercially out-of-tune and somewhat vulnerable.

After parting ways with Edison, in 1885 Tesla received funding for the Tesla Electric Light Company and was tasked by his investors to develop improved arc lighting. After successfully doing so, however, Tesla was forced out of the venture and for a time had to work as a manual laborer in order to survive. His luck changed in 1887, when he was able to find interest in his AC electrical system and funding for his new Tesla Electric Company. Setting straight to work, by the end of the year, Tesla had successfully filed several patents for AC-based inventions. Tesla's AC system eventually caught the attention of American engineer and business man George Westinghouse, who was seeking a solution to supplying the nation with long-distance power. Convinced that Tesla's inventions would help him achieve this, in 1888 he purchased his patents for \$60,000 in cash and stock in the Westinghouse Corporation.

As interest in an alternating-current system grew, Tesla and Westinghouse were put in direct competition with Thomas Edison, who was intent on selling his direct-current system to the nation. A negative-press campaign was soon waged by Edison, in an attempt to undermine interest in AC power. Tesla, for his part, continued in his work and would patent several more inventions during this period, including the "Tesla coil," which laid the foundation for wireless technologies and is still used in radio technology today. Unfortunately for Thomas Edison, the Westinghouse Corporation was chosen to supply the lighting at the 1893 World's Columbian Exposition in Chicago, and Tesla conducted demonstrations of his AC system there. Two years later, in 1895, Tesla designed what was among the first AC hydroelectric power plants in the United States, at Niagara Falls. The following year, it was used to power the city of Buffalo, New York, a feat that was highly publicized throughout the world. With its repeat successes and favorable press, the alternating-current system would quickly become the preeminent power system of the 20th century, and it has remained the worldwide standard ever since.

In addition to his AC system and coil, throughout his career, Tesla discovered, designed and developed ideas for a number of other important inventions—most of which were officially patented by other inventors—including dynamos (electrical generators similar to batteries) and the induction motor. He was also a pioneer in the discovery of radar technology, X-ray technology, remote control and the rotating magnetic field—the basis of most AC machinery. Having become obsessed with the wireless transmission of energy, around 1900 Nikola set to work on his boldest project yet: to build a global, wireless communication system—to be transmitted through a large electrical tower—for sharing information and providing free electricity throughout the world. With funding from a group of investors that included financial giant J. P. Morgan, in 1901 Tesla began work on the project in earnest, designing and building a lab with a power plant and a massive transmission tower on a site on Long Island, New York, that became known as Wardenclyffe.

However, when doubts arose among his investors about the plausibility of Tesla's system and his rival, Guglielmo Marconi—with the financial support of Andrew Carnegie and Thomas Edison—continued to make great advances with his own radio technologies, Tesla had no choice but to abandon the project. The Wardenclyffe staff was laid off in 1906 and by 1915 the site had fallen into foreclosure. Two years later Tesla declared bankruptcy and the tower was dismantled and sold for scrap to help pay the debts he had accrued. After suffering a nervous breakdown, Tesla eventually returned to work, primarily as a consultant. But as time went on, his ideas became progressively more outlandish and impractical. He also grew increasingly eccentric, devoting much of his time to the care of wild pigeons in New York City's parks. He even drew the attention of the FBI with his talk of building a powerful "death beam," which had received some interest from the Soviet Union during World War II.

Poor and reclusive, Nikola Tesla died on January 7, 1943, at the age of 86, in New York City, where he had lived for nearly 60 years. But the legacy of the work he left behind him lives on to this day. Several books and films have highlighted Tesla's life and famous works, including *Nikola Tesla, The Genius Who Lit the World*, a documentary produced by the Tesla Memorial Society and the Nikola Tesla Museum in Belgrade, Serbia; and *The Secret of Nikola Tesla*, which stars Orson Welles as J. P. Morgan). And in the 2006 Christopher Nolan film *The Prestige*, Tesla was portrayed by rock star/actor David Bowie. In 1994, a street sign identifying "Nikola Tesla Corner" was installed near the site of his former New York City laboratory, at the intersection of 40th Street and 6th Avenue. Since Tesla's original forfeiture of his Wardenclyffe site, ownership of the property has passed through numerous hands, and several attempts have been made to preserve it, but in 1967, 1976 and 1994 efforts to have it declared a national historic site failed.

Then, in 2008, a group called the Tesla Science Center was formed with the intention of purchasing the property and turning it into a museum dedicated to the inventor's work. In February 2009 the Wardenclyffe site went on the market for nearly \$1.6 million, and for the next several years, the Tesla Science Center worked diligently to raise funds for its purchase. In 2012, public interest in the project peaked when Matthew Inman of *TheOatmeal.com* collaborated with the TSC in an Internet fundraising effort, ultimately receiving enough contributions to acquire the site in May 2013. Work on its restoration is still in progress.