

Nikola Tesla

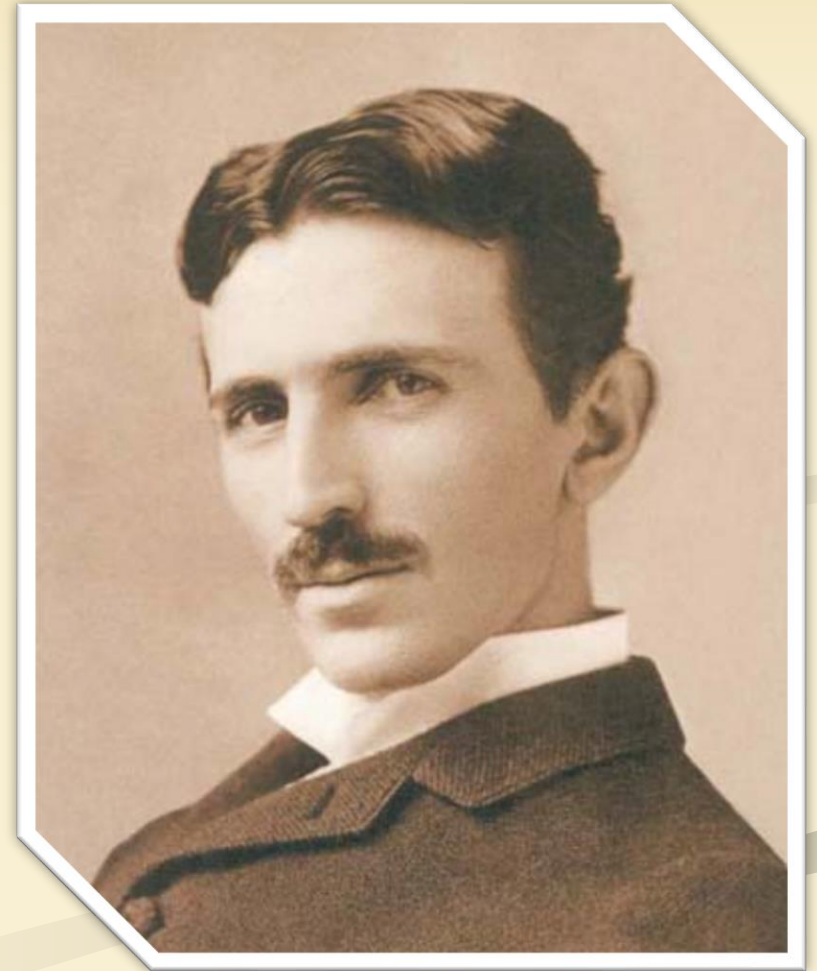
Alena Šolcová, CTU in Prague

Nikola Tesla

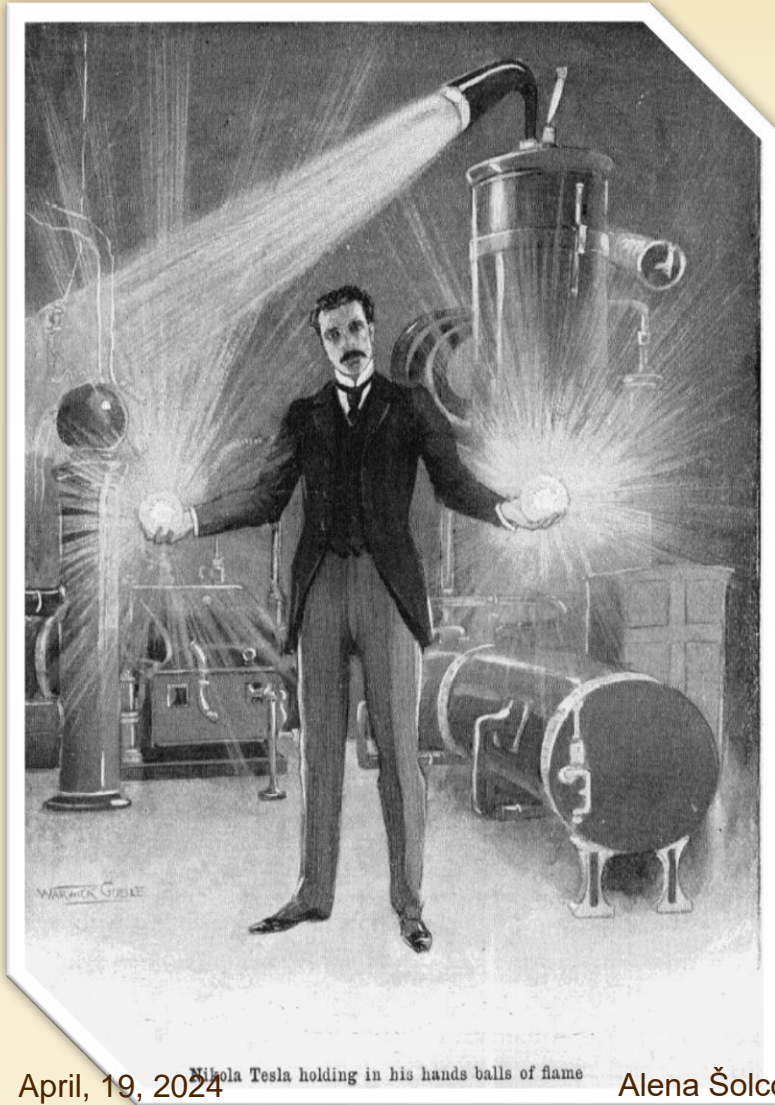


Basic Facts

- Born on 10 July 1856 in Smiljan, Croatia.
- He was an inventor, mechanical engineer, and electrical engineer.
- **Prague visited 2 times.**
- Died on 7 January 1943 in New York.



About his work

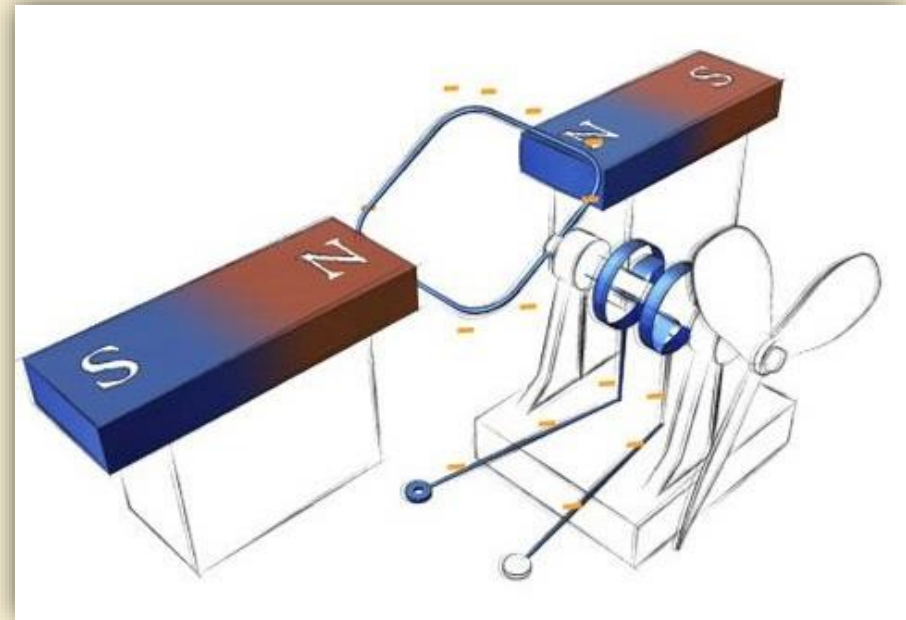


In addition to his work on electromagnetism and electromechanical engineering Tesla contributed in varying degrees:

- to the establishment of robotics
- remote control
- radar
- computer science
- to the expansion of ballistics
- nuclear physics
- and theoretical physics.

Inventions

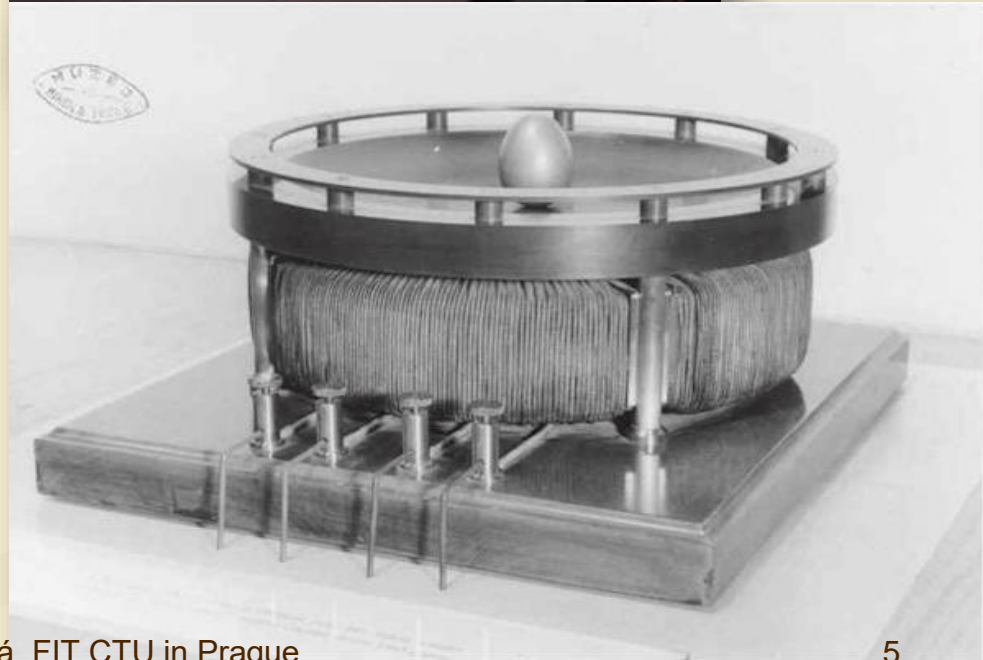
- He invented a rotating magnetic field and polyphase system of alternating currents.
- He had a theoretical invention of ion-propeller aircraft.



Tesla's egg of Columbus

It was used to demonstrate and explain the principles of the rotating magnetic field model and the induction motor.

The egg spins on its major axis, standing on end due to gyroscopic action.



Tesla's biggest invention

- **Wardenclyffe Tower** (1901–1917) also known as the **Tesla Tower**, was an early wireless telecommunications tower **designed by Nikola Tesla** and intended for commercial **trans-Atlantic wireless telephony, broadcasting,** and to demonstrate the transmission of power without interconnecting wires.
- The core facility was not completed due to financial problems and was never fully operational.



Tesla's parents

- Tesla's **father Milutin** was an Orthodox priest, his **mother Georgina Mandić** (called Đuka) was uneducated but very intelligent.
- His family's first last name was **Draganić**.
One of the assumptions was that Tesla's family carries a **name after a Roman settlement *Tesleum*** located near the place called *Raduč*.



The Brother and Sisters of Tesla

- One older brother **Dane**, who was killed in a horse-riding accident when Nikola was five.
- Three sisters –
Milka, Angelina, Marica).



Tesla's education

- He attended a German Primary school in **Smiljan**, and ended it in **Gospić**.
Then he attended school at Higher Real Gymnasium in **Karlovac**.
He finished a four-year term in the span of three years.
Then Tesla studied electrical engineering at the **Austrian Polytechnic in Graz** (1875).
While there, he studied the uses of alternating current.
Some sources say he received Baccalaureate degrees from the university at Graz. However, the university says that he did not receive a degree and did not continue beyond the first semester of his third year, during which he stopped attending lectures.

Tesla and Prague

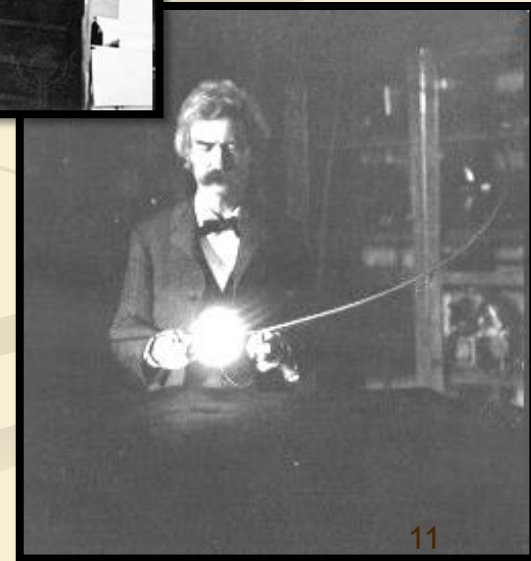
Tesla was later persuaded by his father to attend the Charles-Ferdinand University in Prague, which he attended for the summer term of 1880. Here, he was influenced by **Ernst Mach**.

However, after his father died, he left the university, having completed only one term.



Tesla's friend

- In middle age, Tesla became close friends with **Mark Twain**.
- They spent a lot of time **together** in Tesla's lab and elsewhere.



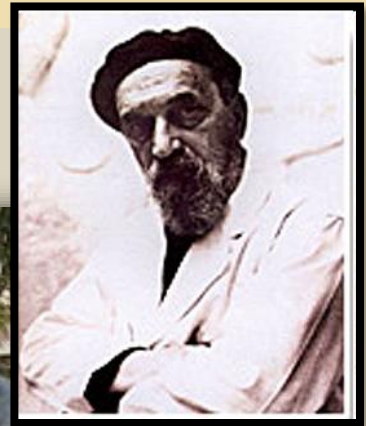
Animal-lover



- Tesla was obsessed with pigeons, ordering special seeds for the **pigeons** he fed in Central Park and even bringing injured ones into his hotel room to nurse them back to health. Tesla was an animal-lover, often reflecting contentedly about a childhood cat, **"The Magnificent cat"**.

Tesla Statue

He did not like posing for portraits, he did it only once for princess Vilma Lwoff-Parlaghy. His wish was to have a **sculpture** made by his friend, Croatian sculptor **Ivan Meštrović**, who was at that time in United States, but he died before getting a chance to see it.



Tesla's life in France

- In 1882 he moved to Paris, to work as **an engineer for the Continental Edison Company**, designing improvements to electric equipment brought overseas from Edison's ideas.
- According to his autobiography, in the same year **he conceived the induction motor** and began developing various devices that use rotating magnetic fields for which **he received patents in 1888.**



Tesla's life in the US

- **On 6 June 1884**, Tesla first arrived in the United States, in New York City with little besides a letter of recommendation from Charles Batchelor, a former employer. In the letter of recommendation to Thomas Edison, Batchelor wrote, ***"I know two great men and you are one of them; the other is this young man."*** Edison hired Tesla to work for his *Edison Machine Works*. Tesla's work for Edison began with simple electrical engineering and quickly progressed to solving some of the company's most difficult problems. Tesla was even offered the task of completely redesigning the Edison company's direct current generators.

Tesla's company

- **The Tesla Electric Light & Manufacturing** was a company formed by Nikola Tesla in 1886.

Located in Rahway, New Jersey, the company was formed after Tesla left Thomas Edison's employment, after a contractual disagreement.

Tesla planned to sell and license his patent and innovations. **Tesla invented an arc lamp of high efficiency;**

the carbon electrodes were controlled by electromagnets or solenoids and a clutch mechanism and had an automatic fail switch.

The company earned money, but most of the capital gained went to the investors.

