Portraits

Highlighting the exceptional contribution of European Jewish Women

Vera Rubin

Astronom

(1928-2016)

https://upload.wikimedia.org/wikipedia/commons/4/49/Vera_Rubin_second_from_left.jpg

Vera Rubin proved that only one-tenth of the universe is visible. The rest consists of previously unrecognized ("dark") matter or dark energy, which permeates everything. Dark matter should have a very large mass, as it exerts a strong gravitational force on the surrounding celestial bodies. What lies behind this matter is one of humanity's greatest mysteries. Vera Rubin discovered around 1960 that some stars moved in the opposite direction to the rotation of the rest of the galaxy. The outer stars rotate so fast, at 200 kilometres per second, that they would have to be ejected by the centrifugal force. But if you postulate that an additional substance exerts a strong attraction, but otherwise does not manifest itself (the "dark matter"), you solve the problem. Vera Rubin, born Cooper in Philadelphia in 1928, was the daughter of Jewish immigrants from Lithuania and Bessarabia.

In 1948, she failed to enter Princeton due to her gender. She studied at Cornell University and Georgetown University in Washington, D.C., where she got her PhD. in physics in 1954. In her doctoral thesis, she showed that galaxies in space are not evenly distributed but are arranged as if on the threads of a giant spider web.

In 1962, Vera Rubin became a professor of astronomy at Georgetown university. Three years later, she became the first woman to be allowed to work at the Palomar Observatory in California. There she made the ground-breaking discovery of dark matter by observing the neighbouring Andromeda galaxy. She was later able to confirm her findings on 60 other galaxies. Through her marriage to Robert Rubin, Vera had four children, all of whom had careers in natural sciences. Vera made a name not only for herself as an astronomer, but also as a champion for women's rights in academic institutions. After being accepted at the Palomar Observatory, a place where no other women worked, she labelled the entrance of one of the men's toilets with large letters: ladies' toilet. She regularly read the lists of lecturers at important scientific meetings and protested vigorously each time well-known female scientists had not been invited.

Several times she was unsuccessfully nominated for the Nobel Prize. She died in Princeton, New Jersey, in 2016 at the age of 88.

EJCC European Jewish Community Centre