

# Satyendra Nath Bose

1894 – 1974

## What did he discover?

In the 1920s, Indian scientist Satyendra Nath Bose discovered one of the classes of particles, which came to be known as the boson.

Bose worked with Albert Einstein to define the two classes of subatomic particles: fermions and bosons. Fermions are the elementary particles that make up matter and bosons are force carriers which hold matter together.

Together, they came up with the theory of the Bose-Einstein Condensate, a state of matter which is typically formed when a gas of bosons at low densities is cooled to temperatures very close to absolute zero.

Numerous Nobel Prizes were awarded for research related to the concepts of the boson and the Bose-Einstein Condensate. Bose was never awarded a Nobel Prize, despite his work on particle statistics, which clarified the behaviour of photons. However, due to Einstein's recommendation he became Head of Physics at the University of Dhaka and continued to publish his work.

### Something to think about...

What are the benefits of understanding how particles behave?