

## OBITUARY

# THE NOBEL PRIZE WINNING PHYSICIST PROF. PETER HIGGS PASSES AWAY



**Peter Higgs**  
(29 May 1929 – 8 April 2024)

**Dr PK Mukherjee**

**T**HE renowned physicist Prof. Peter Higgs, who proposed a new particle, namely the Higgs boson — that imparts sub-atomic particles their masses, thus helping to bind the universe together — passed away at his home in Edinburgh on 8 April 2024 at the age 94. The cause of his death was a blood disorder, according to his close friend and fellow physicist, Alan Walker, at the University of Edinburgh, where Higgs was also an emeritus professor. He is survived by his two sons, Christopher and Jonathan, his daughter-in-law Suzanne and two grandchildren. His wife, Jody, from whom he was separated, died in 2008.

Higgs was awarded the Nobel Prize for physics in 2013 for the discovery of the Higgs boson, jointly with Francois Englert, a Belgian theoretical physicist whose work also directly contributed to the discovery. Peter Higgs, in 1964, proposed a groundbreaking theory predicting the existence of the Higgs field. It's through the interaction with the Higgs field that particles gain mass. The field is mediated by a particle called the Higgs boson.

Peter Ware Higgs was born on 29 May 1929 in Newcastle-Upon-Tyne in Northumberland, a place in northeast England. His English father, Thomas Ware Higgs, was a sound engineer with the British Broadcasting Corporation (BBC). His Scottish mother, Gertrude Maude (nee Coghill) Higgs, was a homemaker. The Higgs family was frequently on the move. Due to this reason and owing to his suffering from childhood asthma coupled with the situation of World War II, he missed early schooling and was taught at home. After Peter's birth, the family moved immediately to Birmingham, where he spent his first eleven years with schooling at home. In 1941, with the intensification of World War II, BBC decided to transfer the operations to Bristol. Keeping in view the situation, the Higgs family shifted to Bristol. But, as fate would have it, the following weekend, central Bristol was heavily bombed. However, the saving grace was that the Higgs family remained safe.

In Bristol, Peter attended Cotham Grammar School from 1941 to 1946. He was particularly inspired by one of the Alumni, Paul Dirac, a father of the field of quantum mechanics who later became a Nobel Laureate in physics. Dirac's name was prominent on the honours board of the school. Inspired by Dirac, Higgs followed him, initially in mathematics rather

than physics. Higgs was a brilliant student at school, naturally inclined towards mathematics and chemistry instead of physics. Higgs's father had a good collection of math books, which drew him to mathematics and helped him to remain far ahead of his class. He also won prizes for his science work, although the work was related to chemistry, not physics.

In 1946, at age seventeen, Peter moved to the City of London School, where he studied mathematics. In this school, his interest in physics was sparked when he listened to the lecture of British physicists, who later became Nobel Laureates, Cecil Powell and Nevill Mott, who in the lecture described the background to the atomic bomb programme. Although this helped determine his future career in physics, he later became a member of the Campaign for Nuclear Disarmament (CND). Although, with growing age, Higgs slowly got disillusioned with CND, it had a great role in his life. He met his future wife, Jody Williams, a linguistics lecturer, at a CND meeting in 1960, whom he married in 1963 and had two sons. They divorced in 1972 but remained friends until her death in 2008. Higgs' elder son, Christopher, is a computer scientist, while the second son, Jonathan, is a musician.

### Academic career and appointments

In 1947, Higgs took admission to King's College London to study theoretical physics. He graduated with a first-class honours degree in physics in 1950. In 1952, he got a master's degree and went on to earn his PhD in 1954. For his PhD thesis, he was working on molecular physics, applying the ideas of symmetry to molecular structures.

After completing his PhD, he was offered temporary research posts with a grant of fellowships, including the first fellowship at the University of Edinburgh (1954-56), then at University College London (1956-57) and after that at Imperial College London (1957-58). In 1958, Higgs was appointed lecturer in mathematics at the University College London. In 1960, he took a permanent job as a lecturer in mathematical physics at the University of Edinburgh. In 1970, he was appointed a reader, and in 1980, he rose to the position of professor of theoretical physics at the University. He remained at the University of Edinburgh until his retirement in 1996.