

1924-2000

# Donald Watts Davies

## A pioneering computer scientist and inventor of packet-switching

Donald Watts Davies made pioneering contributions to computer science, including computer development, networking and security.

Born in Treorchy into a mining family, Davies was brought up in Portsmouth following the death of his father. His studies in Physics and Mathematics at Imperial College, London, were interrupted with war work on atomic weapons. In 1947, he joined the National Physical Laboratory to work on the ACE computer with its designer Alan Turing. After Turing's departure to Manchester, Davies worked on the development, construction and use of the Pilot ACE, which was operational in 1950; it was commercialised by English Electric (as the DEUCE), and by other companies.

In 1965, Davies developed the idea of packet switching – breaking down a message into ‘packets’ before transmitting them separately over a digital data network and reassembling the packets at the destination to recover the message. He built a working online system with services for users at NPL that functioned until 1986. Packet switching was used in creating the first internet (ARPANET), and became the fundamental technology of computer networks. Davies later turned to developing computer security, continuing after his retirement from NPL in 1984. He was made a CBE in 1983 and a Fellow of the Royal Society in 1987.

**Full name:** Donald Watts Davies, C.B.E.

**Born:** 7 June 1924

**Hometown:** Treorchy, in the Rhondda valley in Wales

**Occupation:** Computer scientist and inventor

**Died:** 28 May 2000

**Best known for:** Inventing of packet-switching



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