

Yakir Aharonov Biography

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Biography

Yakir Aharonov is a theoretical condensed **matter** physicist studying nonlocal and topological effects in **quantum mechanics**, relativistic quantum field theories, and interpretations of **quantum mechanics**. Aharonov received his B.S. in 1956 from Technion University in Haifa, Israel. He then studied at Bristol University in England and received a Ph.D. degree in 1960. Dr. Aharonov then held a postdoctoral position for one-year at Brandeis University in Massachusetts before returning to Israel. There, he took an Assistant Professorship at Yeshiva University, becoming an Associate Professor in 1964 and then Professor in 1967. At that time, he accepted and held a joint appointment with Yeshiva University and Tel Aviv University until 1973. In 1973, he began a joint position at Tel Aviv University and the University of South Carolina, which he still holds as of 2000.

In 1998, Aharonov was a co-recipient of the Wolf Prize recognizing the discovery of the Aharonov-Bohm (AB) effect proposed in 1959. The AB effect predicts that electrons passing through field-free regions surrounding a region of **magnetic flux** will acquire different phases depending on whether they pass to the left or to the right of the flux tube. The phase difference, which can be measured in an **interference** experiment, depends on the flux enclosed. The AB effect has since been observed, and has become an experimental tool in the domain of mesoscopic physics.

Aharonov has also been recognized for this work by the 1995 Hewlett-Packard Europhysics Prize. Other honors he has received include the Weizmann Prize and Rothschild Prize in 1984, the Israel National Prize in Physics in 1989, and the Elliot Cresson Medal in 1991. Aharonov has also received a Miller Research Professorship Award at Berkeley, 1988-89; the Alex Maguy-Glass Chair in Theoretical Physics, Tel Aviv University; and a Chair in Theoretical Physics, University of South Carolina. Honorary Doctorates have been awarded to Aharonov from the Israel Institute of Technology, the University of South Carolina, Bristol University, and the University of Buenos Aires. Professor Aharonov was elected a Fellow of the American Physical Society in 1981, and a Member of the National Academy of Sciences in Israel in 1990, followed by the United States in 1993. He also received The Distinguished Scientist Governor Award of South Carolina in 1993.