

International Centre for Theoretical Physics

*Ceremony of Presentation
of P.A.M. Dirac Medals*



15 November 1986

*Strada Costiera, 11
34136 Trieste*

The Dirac Medals of the International Centre for Theoretical Physics were instituted in 1985. They are awarded yearly both to a senior and to a younger physicist, on Dirac's birthday - 8th August - for contributions to theoretical physics.

The 1985 Dirac Medals of the International Centre for Theoretical Physics were awarded to Professor Yakov Zeldovich (Institute for Space Research, Moscow, USSR) and Professor Edward Witten (Princeton University, USA). In 1986, the Dirac Medals are awarded to Professor Yoichiro Nambu (Enrico Fermi Institute for Nuclear Studies, Chicago University, USA) and Alexander Polyakov (Landau Institute for Theoretical Physics, Moscow, USSR) for their important contributions to mathematical physics.

The selection Committee both for 1985 and 1986 includes Professors Abdus Salam, S. Lundqvist, R. Marshak, J. Schwinger, L. Van Hove and S. Weinberg. The Dirac Medals are not awarded to Nobel Laureates or Wolf Foundation Prize winners.

P.A.M. Dirac (1902 - 1984)

Professor Paul Adrien Maurice Dirac was born in Bristol in 1902. He studied engineering in his hometown, and obtained his degree in physics and mathematics at Cambridge University where he became full professor in mathematics in 1932 in the same chair which had been occupied by the great Sir Isaac Newton. After his retirement, Professor Dirac went to live in Tallahassee, Florida, where he taught at the local University from 1971 until his death. He had been a visiting lecturer at the University of Wisconsin in 1929, at the University of Michigan in Summer 1929 and at Princeton University in 1931. A Member of the Royal Society since 1930, he won the Royal Medal in 1939 and the Copley Medal in 1952. He shared the Nobel Prize for Physics with E. Schrödinger in 1933.

The theoretical work by Prof. P.A.M Dirac has led to the discovery of the positive electron and, consequently, to antimatter, as well as to the prediction of the existence of monopoles, i.e. single uncoupled magnetic charges.

Professor Dirac was often an honoured guest at and a staunch friend of the International Centre for Theoretical Physics in Trieste.

Dirac Medal 1986

Alexander Polyakov

Alexander Polyakov, from the Landau Institute of Theoretical Physics, Moscow, USSR, is honoured for

being among the first to emphasize the importance of scale invariance in quantum field theory, particularly in connection with the theory of critical phenomena. He was also one of the first to recognize the relevance of the topological ideas in field theory, through the discovery of the monopole and instanton solutions in non-Abelian Yang-Mills theories. Polyakov's reformulation of the string theories in terms of covariant path integral and his classification of the 2-dimensional conformal field theories (in collaboration with his colleagues at the Landau Institute) are among the important contributions to theoretical physics of this decade.

Professor Alexander Polyakov was born in 1945 in Moscow and studied there at the Institute for Physics and Technology.

He is currently Senior Scientific Investigator at the L.D. Landau Institute for Theoretical Physics in Moscow.

The other Dirac Medal 1986 has been awarded to Professor Yoichiro Nambu (Enrico Fermi Institute for Nuclear Studies, Chicago University, USA) who will receive it in Spring 1987.

Dirac Medal 1985

Yakov Borisovich Zeldovich

Professor Yakov Zeldovich is honoured

for far-ranging contributions to relativistic astrophysics, particularly in theories of compact objects and cosmic evolution.

Professor Yakov Zeldovich was born on 18 March 1914. He graduated at Leningrad University in 1931. In the same year, he became a member of the Academy of Sciences of the Soviet Union by joining the staff at the Institute of Chemical Physics. In 1943 he was awarded the Stalin Prize.

He has written numerous books and articles. Among his contributions, there are the determination of the mechanism of nitrogen oxidation in an explosion, the calculation of the chain reaction in uranium fission, the proposal of a device for chemical reaction in a shock wave and the development of a theory of flame propagation. Since 1964 he has shifted his research interests to Astrophysics.

The other Dirac Medal 1985 was given to Professor Edward Witt (Princeton University, USA) on 7 February 1986.