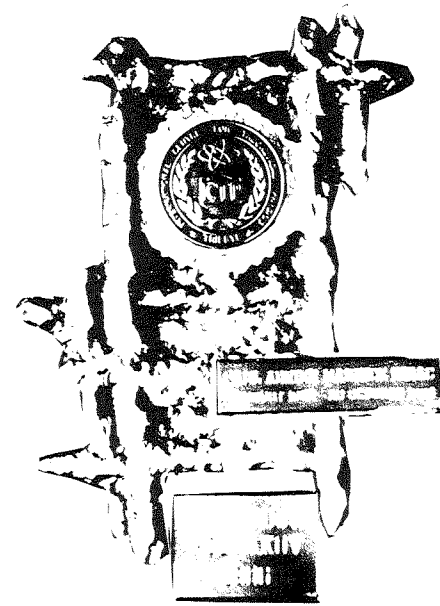


International Centre for Theoretical Physics

P.A.M. Dirac Medals

Presentation Ceremony



26 July 1994

P.A.M. Dirac Medals

The Dirac Medals of the International Centre for Theoretical Physics were instituted in 1985. These are awarded yearly to outstanding physicists, on Dirac's birthday - 8th August - for contributions to theoretical physics.

The Selection Committee includes Professors S. Lundqvist, Y. Nambu, J. Schwinger, E. Witten, S. Weinberg and Abdus Salam. The Dirac Medals are not awarded to Nobel Laureates or Wolf Foundation Prize winners.

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

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 professor in mathematics in 1932 in the Lucasian chair which was once of Sir Isaac Newton. After his retirement, Professor Dirac went to live in Tallahassee, Florida, where he taught at the University from 1971 until his death in 1984. 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.

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

DIRAC MEDALISTS

Dirac Medal 1993

- 1985 Professor Yakov Zeldovich
(Institute for Space Research, Moscow, Russia)
Professor Edward Witten
(Princeton University, USA)
- 1986 Professor Yoichiro Nambu
(Enrico Fermi Institute for Nuclear Studies, Chicago, USA)
Professor Alexander Polyakov
(Landau Institute for Theoretical Physics, Moscow, Russia)
- 1987 Professor Bryce DeWitt
(University of Texas at Austin, USA)
Professor Bruno Zumino
(University of California at Berkeley, USA)
- 1988 Professor David J. Gross
(Princeton University, New Jersey, USA)
Professor Efim Samoilovich Fradkin
(Lebedev Physical Institute, Moscow, Russia)
- 1989 Professor Michael B. Green
(Queen Mary College, University of London, UK)
Professor John H. Schwarz
(California Institute of Technology, USA)
- 1990 Professor Ludwig Dmitriyevich Faddeev
(Steklov Mathematical Institute, Leningrad, Russia)
Professor Sidney Richard Coleman
(Harvard University, Cambridge, Massachusetts, USA)
- 1991 Professor Stanley Mandelstam
(University of California, Berkeley, USA)
Professor Jeffrey Goldstone
(Massachusetts Institute of Technology, Cambridge, USA)
- 1992 Professor N.N. Bogolubov (posthumously)
(formerly of the Joint Institute for Nuclear Research, Moscow, Russia)
Professor Yakov G. Sinai
(Landau Institute of Theoretical Physics, Moscow, Russia)
- 1993 Professor Daniel Z. Freedman
(Department of Mathematics, MIT, Cambridge)
Professor Sergio Ferrara
(Theory Division, CERN, Geneva)
Professor Peter van Nieuwenhuizen
(Department of Physics, SUNY, Stony Brook)

Peter van Nieuwenhuizen

Professor Peter van Nieuwenhuizen is honoured today:

for the discovery of supergravity theory and research in its subsequent development. Prior to the discovery of supergravity, he made important contributions to the understanding of the quantum behaviour of ordinary gravity as well as matter coupled to gravity, through a systematic study of their divergence structure. The search for a gravity theory with better quantum behaviour, by inclusion of fermionic fields, eventually led to a highly non-trivial fusion of supersymmetry with gravity, culminating in the seminal paper with Sergio Ferrara and Daniel Z. Freedman in 1976, where the first supergravity theory was proposed. This theory combines, in a non-trivial fashion, the spin 2 graviton with a spin 3/2 particle called the gravitino to elevate supersymmetry to a local gauge symmetry. This led to an explosion of interest in quantum gravity and it transformed the subject, playing a significant role in very important developments in string theory as well as Kaluza-Klein theory. Professor van Nieuwenhuizen played a major role in the development of the subject, with his studies on the quantum aspects of supergravity, coupling of supergravity to matter, super Higgs effect, extended supergravity theories, conformal supergravity and many other aspects of the theory. In particular, he contributed to the construction of the ten dimensional Einstein-Yang-Mills supergravity, which has been studied intensely in recent years as the low energy limit of the ten dimensional heterotic string theory. Currently any grand unified theory incorporating gravity is based on a supergravity theory coupled to matter in four dimensions. These theories emerge naturally from the compactifications of the ten dimensional heterotic string.

Professor Peter van Nieuwenhuizen was born in Utrecht (The Netherlands) on 26 October 1938. In 1971 he obtained his Ph.D in physics with a thesis on Radiative Corrections to Muonic Processes at the University of Utrecht under the supervision of

Prof. M. Veltman. From 1965 to 1969 Professor van Nieuwenhuizen was Postdoctoral Fellow at the Dutch National Science Foundation. From 1969 to 1970 he was Fellow at CERN in the Theory Division and from 1971 to 1973 Juliot Curie Fellow at the University of Paris, Orsay in France. From 1973 to 1975 was Research Associate at Brandeis University at Waltham, Massachusetts. From 1975 to 1985 he held different positions at the State University of New York at Stony Brook where he is now Leading Professor of Physics. Professor van Nieuwenhuizen is editor of Journal of Modern Physics A, Journal of Mathematical Physics and Classical and Quantum Gravity. In 1985 he was appointed Teyler Professor of Physics at Leiden University. He is the author of many scientific publications; publication n. 98 was on the CERN list of the 20 most referenced publications during the decade 1980-1990.

The first of the 1993 Dirac Medals was awarded to Professor Daniel Z. Freedman on 19 November 1993 and the second one to Prof. S. Ferrara on 19 April 1994.