International Centre for Theoretical Physics

P.A.M. Dirac Medals

Presentation Ceremony

2 December 1992

Strada Costiera, 11
34136 Trieste

P.A.M. Dirac Medals

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

The Selection Committee includes Professors S. Lundqvist, R. Marshak, 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

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).

Dirac Medal 1992

Nikolai N. Bogolubov

Professor Nikolai Nikolaevich Bogolubov is honoured posthumously:

"in recognition of his many fundamental contributions in physics and mathematics. In statistical physics, his treatment of Bose-Einstein condensation in a non-ideal gas was a seminal work which laid the basis for a microscopic theory of superfluidity in Helium II. It stimulated many of the later developments using quasi-particle methods. He later generalised this method to fermions and applied it to the phenomenon of superconductivity providing a systematic microscopic theory. The famous Bogolubov transformation is now a cornerstone of modern physics. In elementary particle physics, Bogolubov was the first to give a rigorous proof, based on local quantum field theory, of fixed angle dispersion relations for pion-nucleon scattering. This emerged from his study of the axiomatic basis of relativistic quantum field theory and the structure of the S-matrix. Another important result was a systematic formulation of the renormalisation programme for perturbative computation of the S-matrix. In mathematics, among his many important contributions we cite his work on non-linear mechanics and the general theory of dynamical systems."

Professor Nikolai Nikolaevich Bogolubov was born on 21 August 1909 in Gorky. At the age of 14 he wrote his first scientific paper and in 1930 he received the degree of Doctor of Mathematics. In 1948 Professor Bogolubov was elected member of the Ukrainian Academy of Sciences and, in 1953, member of the Academy of Sciences of the USSR. Subsequently Bogolubov became a member of the Presidium of the Academy and Head of the Section of Mathematics and in 1964, Director of the Joint Institute for Nuclear Research, in Dubna. Over a very long period of scientific research in Mathematics and Theoretical Physics, he published more than 300 papers. Professor Bogolubov was awarded the Lenin Prize (1958), the Lomonosov Prize of the Academy of Sciences of the USSR and received the highest awards

confered by the Soviet Union. He became an honorary member of many scientific academies and was awarded several degrees "Honoris Causa". He received the Helmholz Golden Medal of the Academy of Science of the German Democratic Republic (1969), the Max Planck Gold Medal of the Physical Society of the Federal Republic of Germany (1973), the Benjamin Franklin Medal (1974) and many other important awards.

The other 1992 Dirac Medal will be awarded to Prof. Y. Sinai (Landau Institute of Theoretical Physics, Moscow, Russia), during the 1993 Summer School in High Energy Physics.