

## P.A.M. DIRAC (1902-1984)

Paul Adrien Maurice Dirac was born in Bristol, England, on 8 August 1902. He studied engineering in his hometown, and obtained his degree in physics and mathematics at Cambridge University, where in 1932 he became professor of mathematics in the Lucasian Chair, which had been held by Sir Isaac Newton two centuries earlier. After his retirement, Professor Dirac went to live in Tallahassee, Florida, where he taught at Florida State University from 1971 until his death on 20 October 1984.

A member of the Royal Society since 1930, he won the Royal Medal in 1939 and the Copley Medal in 1952. Professor Dirac shared the Nobel Prize for Physics with Erwin Schrödinger in 1933. He invented the well-known relativistic wave equation predicting the existence of spin and of the positron when he was only 23 years old. His further work includes his formulations of quantum field theory, statistics of fields and particles, gravitational waves and the prediction of magnetic monopoles.

Dirac first came to Trieste in June 1968 on the occasion of the International Symposium on Contemporary Physics, at which he delivered a lecture on the methods of theoretical physics. After this symposium, Dirac was a guest of honour at the Centre for a month or so nearly every year. In 1972, at a symposium on The Physicists' Conception of Nature organized in honour of Dirac on the occasion of his 70th birthday, he gave a lecture on Fundamental Constants and their Development in Time. Dirac also attended the Marcel Grossman Meeting held at the Centre on the centennial of the birth of Albert Einstein in 1979.

Abdus Salam, who proposed the institution of the Dirac Medal, was Dirac's student at Cambridge and it was after having listened to Dirac's lectures that he decided to devote his life to research rather than becoming a civil servant in his country. He remained in touch with his master and became his friend.



The Abdus Salam  
**International Centre  
for Theoretical Physics**



**2012 DIRAC MEDAL CEREMONY**

**4 July 2013**

## THE DIRAC MEDAL

The Abdus Salam International Centre for Theoretical Physics awarded its first Dirac Medal in 1985. The Medal is given in honour of P.A.M. Dirac, one of the greatest physicists of the 20th century and a staunch friend of the Centre. It is awarded annually on Dirac's birthday, 8 August, to an individual or individuals who have made significant contributions to physics. An international committee of distinguished scientists selects the winners from a list of nominated candidates. Nominations are invited from scientists working in all areas of physics. The deadline for receipt of nominations is 15 April of the relevant year.

## THE 2012 DIRAC MEDAL AND PRIZE

The 2012 Dirac Medal is awarded to

- **F. Duncan M. Haldane** (Princeton University, USA)
- **Charles L. Kane** (University of Pennsylvania, USA) and
- **Shoucheng Zhang** (Stanford University, USA)

in recognition of their many important contributions to condensed matter physics, including their independent work preparing and opening the field of two and three dimensional topological insulators. Their research and the physical implications of the concepts and theories they developed have been instrumental to exciting recent developments in this new area of experimental and theoretical condensed matter physics.

## 2012 DIRAC MEDAL AWARD CEREMONY

**4 July 2013**

**Main Lecture Hall, Leonardo Building**

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Programme

14:00 Remarks by Fernando Quevedo, Director, ICTP

14:15 Presentation of the Medallists,  
Paul Wiegmann (University of Chicago)

14:30 Award of the Medals

14:45 Talks by the Medallists

F. Duncan M. Haldane  
*Topologically-non-trivial Quantum States in  
Condensed Matter Physics: From 1D Spin Chains,  
to 2D Chern Insulators, to Today*

Charles L. Kane  
*Topological Insulators*

Shoucheng Zhang  
*Dirac's Inspiration in the Search for Topological  
States of Matter*