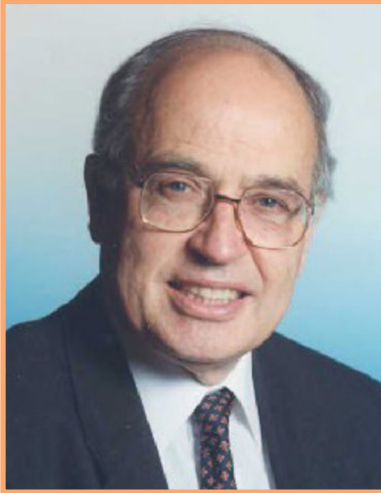


KAVLI INSTITUTE FOR THEORETICAL PHYSICS

Presents

the Twenty-Ninth KITP Public Lecture



Michael Atiyah

The Nature of Space

For more than two thousand years philosophers, mathematicians and physicists have struggled to understand the nature of space. Kant studied the role of the human mind, mathematicians examined the logical ramifications of space and physicists investigated experimental phenomena. Einstein showed how space and time are inextricably linked. The story continues to the present day, with increasingly exotic scenarios of vibrating strings in ten dimensional space-time. I will review the history and present status of the great philosophical controversies in the light of modern developments.

**Admission is Free
Limited Seating**

**Please Call
(805) 893-4111
for reservations.**

*To make special
arrangements to
accommodate a disability,
call the KITP at the
number above.*

KITP GRATEFULLY
ACKNOWLEDGES
FRIENDS OF KITP AND ITS
MANY OTHER FRIENDS IN
THE COMMUNITY

K I T P
P u b l i c
L e c t u r e
S e r i e s



About the Speaker

MICHAEL ATIYAH received both his BA and Ph.D. (1955) from Trinity College, Cambridge, England. He held postdoctoral appointments at Cambridge and the Institute for Advanced Study. He arrived in Oxford in 1961 as a Reader and then from 1963 to 1969 he held the Savilian Chair of Geometry. He spent 3 years as Professor at the Institute for Advanced Study before returning to Oxford as a Royal Society Research Professor. In 1990 he became Master of Trinity College and the first Director of the Newton Institute for Mathematical Studies in Cambridge. He retired from these positions in 1997 and 1996 respectively. Professor Atiyah is currently an Honorary Professor at the University of Edinburgh.

Atiyah has made many outstanding and fundamental mathematical contributions, especially in areas involving interactions between geometry, topology and analysis. In collaboration with Hirzebruch he pioneered the development of K-theory, which is now crucial to the solution of many important mathematical problems. His celebrated "index theorem" with Singer led to new connections in Differential geometry, topology and analysis. It has become an important tool in theoretical physics. Many of the great results in 4-manifold geometry rely on mathematical theories in which he made foundational contributions. He has been very influential in bringing the ideas of theoretical physicists to the attention of mathematicians and vice versa. For these and other contributions he received numerous awards including the Fields Medal (1966), Royal Medal (1968), De Morgan Medal (1980), King Faisal Prize (1987), the Copley Medal (1988) and the Abel Prize in 2004. He was Knighted in 1983 and made a member of the Order of Merit in 1992. He has been elected to the national academies of about 20 nations and received honorary degrees from over 30 universities. Professor Atiyah served as President of the London Mathematical Society (1974-1976) and President of the Royal Society (1990-1995) and is to become President of the Royal Society of Edinburgh in October 2005. He also served as President of the Pugwash Conferences (1997-2002), an international organization dedicated to "reducing the danger of armed conflict and seeking cooperative solutions for Global problems."

Wednesday, October 26, 2005

8:00 pm

Kavli Institute for Theoretical Physics, Main Seminar Room