## SRINIVASA RAMANUJAN AND NIELS HENRIK ABEL

Abel and Ramanujan were born 85 years apart in time and a world apart in space: Abel in 1802 in Frindø (near Stavanger), Norway, and Ramanujan in 1887 in Erode, Tamil Nadu, India. Both died young---Abel at 27 and Ramanujan at 32. They both grew up in poverty and hardship; Norway was not in great shape at that time. The lives of these two mathematicians are at once romantic, tragic, and heroic. Of the two, perhaps Ramanujan may have been the more fortunate. He found a sympathetic mentor in G.H. Hardy, a mathematician of towering stature at Cambridge, who was responsible for making Ramanujan's work known to the world during the latter's own lifetime. Abel had the misfortune that his best work was mislaid at the Paris Academy, and was recognized only posthumously.

Abel was a pioneer in the development of several branches of modern mathematics, especially group theory and elliptic functions. He showed, while still 19 years old, that there exist no general algebraic solutions for the roots of polynomials with degree equal to or greater than 5, thus resolving a problem that had intrigued mathematicians for centuries. Ramanujan was a genius in pure mathematics and made spectacular contributions to elliptic functions, continued fractions, infinite series, and analytical theory of numbers. He was essentially self-taught from a single text book that was available to him. They both possessed extraordinary mathematical power and inspiration.

A year before the bi-centenary of Abel, the Norwegian Government established an Abel Fund, part of which was to be used by the Norwegian Academy of Science and Letters to award an annual Abel Prize for mathematics. This prize has a financial value comparable to the Nobel Prize. And, unlike the well-known Fields Medal which is awarded to young mathematicians below 40, the Abel Prize recognizes lifetime contributions to mathematics.

The Abdus Salam
International Centre for Theoretical Physics

IAEA

**2009 RAMANUJAN PRIZE CEREMONY**
**13 July 2010**

## THE RAMANUJAN PRIZE

In 2005 the Abdus Salam International Centre for Theoretical Physics (ICTP) established the Srinivasa Ramanujan Prize, named after the mathematics genius from India. This Prize is awarded annually to a mathematician under 45. Since the mandate of ICTP is to strengthen science in developing countries, the Ramanujan Prize has been created for mathematicians from developing countries. Since Ramanujan is the quintessential symbol of the best in mathematics from the developing world, naming the Prize after him seemed entirely appropriate.

The Ramanujan Prize is funded by the Norwegian Academy of Science and Letters through the Abel Fund, with the cooperation of the International Mathematical Union. The Abel Fund is named in honor of the great Norwegian mathematician, Niels Henrik Abel. It is enchanting that the names of these two extraordinary mathematicians should be linked through this Prize.

## THE 2009 RAMANUJAN PRIZE CITATION

This year's Ramanujan Prize is awarded to **Ernesto Lupercio**, CINVESTAV, Instituto Politécnico Nacional, Mexico, in recognition of "his outstanding contributions to algebraic topology, geometry and mathematical physics. He is an expert in the theory of orbifolds (spaces with singularities arising from finite symmetric groups). He has fundamental results on K-theory, gerbes, and Chas-Sullivan type string topology operations.

"The prize is also in acknowledgement of the enormous contribution that Professor Lupercio has made to mathematics in Mexico, through his energy, enthusiasm and collaborations with young researchers."

Ramanujan Prize Selection Committee
Wilfrid Gangbo
Ramadas Ramakrishnan (Chair)
Srinivasa Varadhan
Marcelo Viana
Ragnar Winther

## 2009 RAMANUJAN PRIZE CEREMONY

Professor Fernando Quevedo
Director of the ICTP
has the pleasure of inviting you to the
2009 Ramanujan Prize Ceremony on

**Tuesday, 13 July 2010**
at 15:00
in the Main Lecture Hall of the Leonardo Building

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**Programme**

Welcome remarks by Professor Fernando Quevedo
Director of the ICTP

Remarks by Professor Helge Holden
Chairman of the Abel Fund

Remarks by Professor László Lovász
President of the International Mathematical Union

Remarks by Professor José Seade
Universidade Nacional Autonoma de Mexico

Presentation of the Ramanujan Prize to
Professor Ernesto Lupercio

Acceptance speech by the Prize winner

Ramanujan Prize Lecture by Ernesto Lupercio
"Quantum field theory and geometry: a fruitful interaction"

Refreshments on the Terrace