

# Abel Prize 2009

## *Geometry - the playground of Mikhail Gromov*



**The Norwegian Academy of Science and Letters has decided to award the Abel Prize for 2009 to Mikhail Leonidovich Gromov, IHÉS, Bures-sur-Yvette, France, for his revolutionary contributions to geometry.**

The Russian-French mathematician Mikhail L. Gromov is one of the leading mathematicians of our time. He is known for important contributions in many areas of mathematics, especially geometry. Mikhail Gromov has, over the last 30 years, produced profoundly original general ideas which have resulted in new perspectives on geometry and other areas of mathematics.

Geometry is one of the oldest sciences, with traditions going back to the Antique. When Newton introduced his fundamental theorem of calculus,



*Carl Friedrich Gauss  
(1826-1866)*

he laid the foundation for a renewed understanding of geometry, and of course to explore the nature. The development of modern physics and understanding of differential geometry have shown to be a fruitful symbiosis with contributions made by great scientists like Lagrange,

Gauss, Hamilton, Rie-

mann, Einstein and this years laureate, Mikhail L. Gromov. Gromov's introduction of pseudoholomorphic maps in symplectic geometry lead to the so-called Gromov-Witten invariants, an important notion in string theory, on of the "hottest" theories in modern theoretical physics.

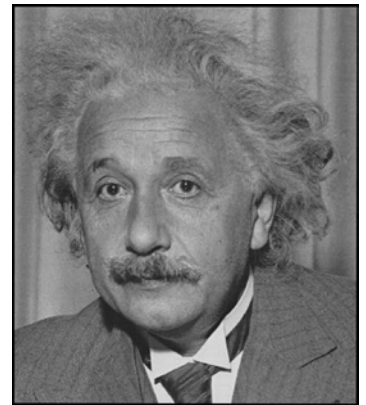
Gromov's name is forever attached to deep results and important concepts within Riemannian geometry, symplectic geometry, string theory and group theory. The Abel committee emphasis in particular the development of pseudoholomorphic maps on symplectic manifolds in a paper

from 19985. The Abel committee says: "Mikhail Gromov is always in pursuit of new questions and is constantly think-

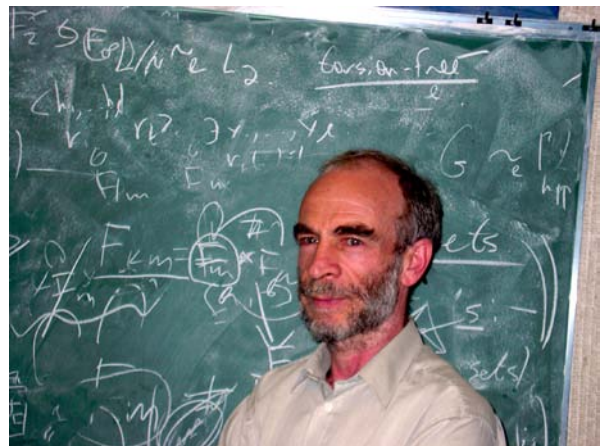
ing of new ideas for solutions of old problems. He has produced deep and original work throughout his career and remains remarkably creative.

The work of Gromov will continue to be a source of inspiration for many future mathematical

discoveries". At the same time Gromov is a researcher who is able to produce great results from simple ideas. Dennis Sullivan gave this characteristic of Gromov: "It is incredible what Mikhail Gromov can do, just with the triangle inequality.!"



*Albert Einstein (1870-1955)*



*Mikhail L. Gromov (1943- )*