

Gromov Receives 2002 Kyoto Prize

In June 2002 the Inamori Foundation announced the laureates for the 2002 Kyoto Prizes, international awards presented to people who have contributed greatly to the scientific, cultural, and spiritual betterment of humankind.

The Kyoto Prize for Basic Sciences, selected from the fields of the mathematical sciences, is awarded to MIKHAEL LEONIDOVICH GROMOV of the Institut des Hautes Études Scientifiques and the Courant Institute of Mathematical Sciences, New York University whose innovative ideas and establishment of a new geometry have had an immeasurable impact on all the mathematical sciences.

The Kyoto Prize presentation ceremony will be held at the Kyoto International Conference Hall on November 10, 2002. At the ceremony each laureate will be given a diploma, a Kyoto Prize Medal in gold, and prize money of 50 million yen (about US\$420,000).

Gromov's work covers all areas of geometry and its relations with neighboring fields such as topology and analysis. He brings a profoundly original and expansive viewpoint to any subject he works on. This viewpoint illuminates the subject, opening spectacular vistas, and sometimes creates a whole new subject that is then explored by many other researchers for years, long after Gromov has moved on.

A hallmark of much of Gromov's work is the softening of geometry, whereby equations are replaced by inequalities or approximate or asymptotic equations. Examples include the "coarse" viewpoint on Riemannian geometry (which considers all Riemannian structures at once), the "homotopic" viewpoint on partial differential equations (which solves overdetermined systems via topology), and the "asymptotic" viewpoint on geometric group theory.

Gromov has revolutionized symplectic geometry by the introduction of methods from complex analysis and has given important impulses to index theory and to sub-Riemannian (or Carnot-Carathéodory) geometry. He has introduced many important new concepts into geometry, most of which are outgrowths of his "coarse" or "soft" viewpoint: almost flatness of metrics and connections, simplicial volume, K -area, hyperbolicity of groups, etc.

Gromov has had, and will continue to have, a widespread influence on contemporary mathematics.

Previous recipients of the Kyoto Prize include: Rudolf E. Kalman (1985), Claude E. Shannon (1985), John McCarthy (1988), I. M. Gelfand (1989), André Weil (1994), Donald E. Knuth (1996), and Kiyosi Itô (1998).

The Inamori Foundation was established in 1984 by Kazuo Inamori, founder and chairman emeritus of the Kyocera Corporation. The Kyoto Prizes, established in 1985, have been awarded to fifty-six individuals and one group. Further information is available on the website http://www.inamori-f.or.jp/index_e.html.

—Allyn Jackson



Mikhael Gromov