Serre Receives Abel Prize

Jean-Pierre Serre

JEAN-PIERRE SERRE of the Collège de France has been awarded the first Abel Prize of the Norwegian Academy of Science and Letters. Serre is honored "for playing a key role in shaping the modern form of many parts of mathematics, including topology, algebraic geometry and number theory." The prize amount is 6 million Norwegian kroner (approximately US$825,000).

Serre's work is of extraordinary breadth, depth, and influence. He developed revolutionary algebraic methods for studying topology and in particular studied the transformations between spheres of higher dimensions. He is responsible for a spectacular clarification of the work of the Italian algebraic geometers by introducing and developing the right algebraic machinery for determining when their geometric construction worked. This powerful technique of Serre, with its new language and viewpoint, ushered in a golden age for algebraic geometry.

For the past four decades Serre's magnificent work and vision of number theory have been instrumental in bringing that subject to its current glory. This work connects and extends in many ways the mathematical ideas introduced by Abel, in particular his proof of the impossibility of solving fifth-degree equations by radicals and his analytic techniques for the study of polynomial equations in two variables. Serre's research has been vital in setting the stage for many of the most celebrated recent breakthroughs, including the proof by Wiles of Fermat's Last Theorem.

Jean-Pierre Serre was born in 1926 in Bages, France. He studied at the École Normale Supérieure and received his D.Sc. in 1951 from the Sorbonne in Paris. After holding a position through the Centre National de la Recherche Scientifique, he was an associate professor at the Université de Nancy. In 1956 he assumed the position of professor at the Collège de France.

Serre has been made a Commander Légion d'Honneur and High Officer Ordre National du Mérite. He has been elected to many national academies, in particular, the academies of France, Sweden, the United States, and the Netherlands. He was awarded the Fields Medal in 1954 (the youngest recipient ever), the Prix Gaston Julia in 1970, the Balzan Prize in 1985, the AMS Steele Prize in 1995, and the Wolf Prize in 2000. He has been awarded honorary degrees from many universities, most recently from the University of Oslo in 2002 in connection with the Abel Bicentennial.

The selection committee for the 2003 Abel Prize consisted of John M. Ball, Friedrich Hirzebruch, David Mumford, Jacob Palis, and Erling Størmer (chair).

The Niels Henrik Abel Memorial Fund was established in January 2002. The main object of establishing the fund is to award an international prize for outstanding scientific work in the field of mathematics. The prize is intended to contribute towards raising the status of mathematics in society and stimulating the interest of children and young people in mathematics. The fund is administered by the Norwegian Ministry of Education and Research. Further information about the Abel Prize may be found in "Norway Establishes Abel Prize in Mathematics", *Notices*, January 2002, pages 39–40.

—Allyn Jackson