

NEWS

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PIERRE DELIGNE AWARDED 2013 ABEL PRIZE

PRINCETON, N.J., March 20, 2013 – The Norwegian Academy of Science and Letters has awarded the **2013 Abel Prize** to **Pierre Deligne**, Professor Emeritus in the School of



Mathematics at the Institute for Advanced Study. Deligne was cited by the Abel Committee for his “seminal contributions to algebraic geometry and for their transformative impact on number theory, representation theory and related fields.”

Deligne’s novel ideas and resolution of long-standing problems have permeated these fields to the point where a significant portion of current research cannot be formulated without reference to his work.

“Deligne’s focus extends beyond establishing fundamental mathematical truths; he seeks to understand why they are inevitable,” noted Peter Sarnak, Professor in the School of Mathematics at the Institute. “In his work, this is often achieved by brilliant abstract reasoning, after which the result becomes clear and conceptual. Deligne is responsible for many of the standard tools in modern algebraic geometry, and a range of striking theorems, theories, mathematical objects and constructions bear his name.”

Robbert Dijkgraaf, Director of the Institute and Leon Levy Professor, added, “We are extremely pleased that Pierre’s work is being acknowledged by the Abel Prize. His keen insight and total dedication as a mathematician are matched only by his great mentorship and generous spirit, which has inspired generations of researchers here at the Institute and around the world.”

The Abel Prize acknowledges outstanding scientific work in the field of mathematics and comes with a monetary award of approximately one million U.S. dollars. The Prize will be given to Deligne by H.M. King Harald at an award ceremony in Oslo on May 21, and Deligne will deliver a lecture the following day. Since the Abel Prize was first bestowed in 2003, 10 of the 11 recipients have been affiliated with the Institute as Faculty or Members.

Among Deligne's seminal contributions are his proof of the Riemann Hypothesis for varieties over finite fields (also known as the Weil Conjectures, named for André Weil, Professor at the Institute from 1958 until 1998), the proof of the Ramanujan Conjecture in the theory of modular forms and a proof of a vast generalization of Hilbert's 21st problem concerning linear differential equations and monodromy groups. He introduced the idea of "weights" in Hodge theory, a powerful proof technique and a useful conceptual tool. Deligne has made significant contributions to representation theory, number theory and automorphic forms. *Quantum Fields and Strings: A Course for Mathematicians* (1999), edited by Deligne and others, presented material from the collaborative mathematics and physics seminars held at the Institute in 1996–97, and has become the standard source for mathematicians on this topic.

Deligne was born in 1944 in Etterbeek, Brussels, in Belgium, and he pursued mathematics from a young age. At 12, he was intrigued by his older brother's textbooks, and further affirmed his passion for mathematics after reading Nicolas Bourbaki's *Elements of Mathematics*, recommended by his high school teacher. Deligne received his Licence en Mathématiques (B.A.) in 1966 and his Ph.D. in 1968, both from the University of Brussels. In 1967–68, Deligne was concurrently a junior scientist at the Belgian National Fund for Scientific Research and a guest at the Institut des Hautes Études Scientifiques (IHÉS). He was a visiting member at IHÉS from 1968–70, at which time he was appointed a permanent member. In 1972, Deligne earned his Doctorat d'État ès Sciences Mathématiques from Université Paris-Sud 11. He was a Member (1972–73, 1977) and Visitor (1981) in the School of Mathematics at the Institute. He was appointed to the Faculty of the Institute in 1984 and became Emeritus in 2008.

Deligne has received many distinguished international awards in recognition of his work and impact across the field, including the Fields Medal (1978), the Crafoord Prize (1988, jointly with Alexander Grothendieck), the Balzan Prize (2004) and Wolf Prize (2008, jointly with Phillip Griffiths and David Mumford). He is also the recipient of the François Deruyts Prize

(1974), the Henri Poincaré Medal (1974) and the A. De Leeuw-Damry-Bourlart Prize (1975). In 2006, Deligne was honored by King Albert II of Belgium, who made him a Viscount. The Belgian post office also issued a postage stamp in honor of his achievements in fundamental mathematics. Deligne is a member of many of the world's leading scientific academies and societies. He is an honorary member of the Moscow Mathematical Society and of the London Mathematical Society, a foreign honorary member of the American Academy of Arts and Sciences, a member of the American Philosophical Society and a foreign member of the Royal Swedish Academy of Sciences.

About the Norwegian Academy of Science and Letters

The Norwegian Academy of Science and Letters was founded in 1857. It is a nongovernmental, nationwide body that embraces all fields of science and scholarship. The members are divided into two sections: Mathematics and Natural Sciences, and Humanities and Social Sciences. The Academy has altogether 482 Norwegian and 398 foreign members. H.M. King Harald is Honorary President of the Academy. In addition to the Abel Prize, the Academy awards the Kavli Prize in astrophysics, nanoscience and neuroscience.

About the Institute

The Institute for Advanced Study is one of the world's leading centers for theoretical research and intellectual inquiry. The Institute exists to encourage and support fundamental research in the sciences and humanities—the original, often speculative thinking that produces advances in knowledge that change the way we understand the world. Work at the Institute takes place in four Schools: Historical Studies, Mathematics, Natural Sciences and Social Science. It provides for the mentoring of scholars by a permanent Faculty of no more than 28, and it offers all who work there the freedom to undertake research that will make significant contributions in any of the broad range of fields in the sciences and humanities studied at the Institute.

The Institute, founded in 1930, is a private, independent academic institution located in Princeton, New Jersey. Its more than 6,000 former Members hold positions of intellectual and scientific leadership throughout the academic world. Some 33 Nobel Laureates and 38 out of 52 Fields Medalists have been Institute Faculty, Members or Visitors. Many winners of the Wolf and MacArthur prizes have also been affiliated with the Institute.