Sir Michael Francis Atiyah (1929-2019)

by Manjil Saikia - Saturday, January 12, 2019


Sir Michael Francis Atiyah is no more. On Friday, 11th January 2019 he breathed his last, according to a release of the Royal Society. Sir Michael was one of the greats of 20th century mathematics; some might even say of all of mathematics. He is known, among other things for his theorem, proved jointly with Isadore Singer, called the Atiyah-Singer Index Theorem, which is one of the cornerstone of modern mathematics.

Sir Michael was a Lebanese-British mathematician, born on 22nd April, 1929; and has a distinguished career which spanned several decades. He has won the Fields Medal in 1966 and the Abel Prize in 2004; considered to be the highest honours in mathematics. His research, helped to unify mathematics and physics in a completely new way, and has paved new paths in the study of string theory and gauge theory in the past several decades.

Atiyah, in addition to have won many important mathematical prizes, was also the President of the Royal Society from 1990 to 1995. He was known for his enthusiasm for young mathematicians and was a regular speaker at the Heidelberg Laureate Forum, since it's inception. Atiyah, flamboyant style of communication in his talks, specially in his later years has fixed him in the psyche of many young mathematicians.

His research, which has covered many different mathematical fields over the years, started with algebraic geometry in his undergraduate years. For his PhD, earned from Cambridge, he gave a sheaf-theoretic approach to Solomon Lefschetz's theory of integrals of the second kind on algebraic varieties. After which he spent time at the Institute for Advanced Studies in Princeton, USA. Then, he began work on K-Theory and towards the later part of his mathematical career looked at connections of mathematics and physics.

Words are not enough to measure the impact of his mathematical oeuvre or his other output, indeed we have lost a great mathematician from our midst. Among the undergraduate students of mathematics, Atiyah's name is instantly recognised due to his co-authored book on Commutative Algebra, that almost every mathematics student at some point, sets their eyes on. But that is just a tiny tiny glimpse of what Sir Michael has done or achieved, and his true greatness is appreciated and spoken of, all over the world in
mathematical circles. He was truly the stuff of legends, and the world is poorer today.


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