



Endre Szemerédi

Endre Szemerédi was born on 21 August 1940 in Budapest, Hungary. He is a Permanent Research Fellow at the Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, in Budapest. Since 1986 he has also been New Jersey Professor of Computer Science at Rutgers University, New Jersey, USA.

Szemerédi has held visiting positions at Stanford University (1974), McGill University, Montreal (1980), the University of South Carolina (1981–1983) and the University of Chicago (1985–1986). He was the Fairchild Distinguished Scholar at the California Institute of Technology in 1987–88. He is also a recipient of the Aisenstadt Chair at Centre de Recherches Mathématiques, University of Montreal. In 2008 Szemerédi was the Eisenbud Professor at the Mathematical Science Research Institute, Berkeley.

Endre Szemerédi has been described as a mathematician with exceptional research power and his influence on today's mathematics is enormous. Yet as a mathematician, Szemerédi started out late. He attended medical school for a year, and worked in a factory before he switched over to mathematics. Endre Szemerédi studied at the Eötvös Loránd University in Budapest, where he got his Master of Science degree (M.Sc.) in 1965. He moved on to Moscow State University, where he received his Ph.D. in 1970 under the direction of Israel M. Gelfand.

Endre Szemerédi's exceptional mathematical talent was discovered when he was a young student in Budapest by his mentor Paul Erdős. Szemerédi lived up to his mentor's great expectations by proving several fundamental theorems of tremendous importance. Many of his results have generated research for the future and have laid the foundations for new directions in mathematics. Endre Szemerédi has published over 200 scientific articles.

In 2010, on the occasion of Szemerédi's 70th birthday, the Alfréd Rényi Institute of Mathematics and the János Bolyai Mathematical Society organized a conference in Budapest to celebrate his achievements. In the book, *An Irregular Mind*, published prior to the conference, it is stated that "Szemerédi has an 'irregular mind'; his brain is wired differently than for most mathematicians. Many of us admire his unique way of thinking, his extraordinary vision."

Endre Szemerédi receives the 2012 Abel Prize *“for his fundamental contributions to discrete mathematics and theoretical computer science and in recognition of the profound and lasting impact of these contributions on additive number theory and ergodic theory,”* to quote the Abel Committee.

Discrete mathematics is the study of structures such as graphs, sequences, permutations, and geometric configurations. The mathematics of such structures forms the foundation of theoretical computer science and information theory. Professor Szemerédi was one of the first to realize the importance of theoretical computer science.

Awards and honours: Endre Szemerédi has received many awards and honours for his contributions to mathematics and computer science. In 2008 he was awarded the Leroy P. Steele Prize for Seminal Contribution to Research by the American Mathematical Society. The same year Endre Szemerédi received the Rolf Schock Prize in Mathematics from the Royal Swedish Academy of Sciences. Other prizes include:

- Grünwald Prize (1967)
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- Rényi Prize (1973)
- Pólya Prize for Achievement in Applied Mathematics (SIAM) (1975)
- Prize of the Hungarian Academy of Sciences (1979)

Endre Szemerédi is a corresponding member (1982), and member (1987) of the Hungarian Academy of Sciences and a member (2010) of the US National Academy of Sciences. He has been a member of the Institute for Advanced Study (IAS) at Princeton University. In 2010 Szemerédi became an honorary doctor of the Charles University in Prague in the Czech Republic.

THE
ABEL
PRIZE