Distinguished Lifetime Achievement Award

Dr. Yitang Zhang

Professor
Department of Mathematics University of California, Santa Barbara

Citation of Accomplishments

Establishing the first finite bound on the gaps of prime numbers and thus solving a centuries-old problem in number theory, and his unsubdued passion for mathematics and science.

Dr. Yitang Zhang was born on February 5, 1955 in Shanghai, China, and lived there until he was 13 years old. During the Cultural Revolution, he and his parents were sent to the countryside to work in the fields. He worked as a laborer for ten years and was unable to attend high school. After the Cultural Revolution ended, he entered Peking University in 1978 as an undergraduate student and graduated in 1982. Then he became a graduate student of Professor Pan Chengbiao, a number theorist at Peking University, and obtained his master's degree in mathematics in 1984.

With recommendations from Professor Ding Shisun, the president of Peking University, Yitang was granted a full scholarship at Purdue University. He arrived at Purdue in June 1985, studied there for seven years, and obtained his Ph.D. in mathematics in December 1991. After graduation, he had a hard time finding an academic position. After several years, he managed to find a position as a lecturer at the University of New Hampshire (UNH), where he was hired by Professor Kenneth Appel in 1999. He served as a lecturer at UNH until January 2014, when UNH appointed him to a full professorship as a result of his breakthrough on the distribution of prime numbers. In Fall 2015, he accepted an offer of full professorship at the University of California, Santa Barbara.

On April 17, 2013, Dr. Zhang announced a proof that states there are infinitely many pairs of prime numbers that differ by 70 million or less. This result implies the existence of an infinitely repeatable prime 2-tuple, thus establishing a theorem akin to the twin prime conjecture. Dr. Zhang's paper was accepted by Annals of Mathematics in early May 2013, his first publication since his last paper in 2001. The proof was refereed by leading experts in analytic number theory. His result set off a flurry of activity in the field, such as the Polymath8 Project.

Dr. Zhang was awarded the 2013 Morningside Special Achievement Award in Mathematics, the 2013 Ostrowski Prize, the 2014 Frank Nelson Cole Prize in Number Theory, the 2014 Rolf Schock Prize in Mathematics, and the 2016 QiuShi Distinguished Scientist Prize.

Dr. Zhang was a recipient of the 2014 MacArthur Award, and was elected as a Fellow of Academia Sinica in Taiwan during the same year. He was an invited speaker at the 2014 International Congress of Mathematicians.