

丘成桐教授

哈佛大學William Caspar Graustein講座教授

哈佛大學數學系主任



## 簡介

丘成桐教授，1949年4月4日生於中國廣東汕頭市，同年隨家人移居香港。1966年考入香港中文大學數學系，1969年獲推薦留學於美國柏克萊加州大學，師從陳省身。1971年(22歲)獲博士學位後在高等研究所進行為期一年的博士後學習，並在紐約州立大學石溪分校做了兩年助理教授。之後於普林斯頓大學、紐約州立大學及史丹福大學任教，並成為講座教授。1987年出任美國哈佛大學講座教授至今，並分別於1994及2003年始出任香港中文大學數學科學研究所所長及香港中文大學博文講座教授至今。

丘教授現為美國哈佛大學 William Caspar Graustein 數學講座教授及哈佛大學數學系主任。此外，他還是香港中文大學數學科學研究所、北京晨興數學研究所、浙江大學數學科學研究中心和北京清華數學科學中心的主任。他是義大利 Lincei 科學院外籍院士、俄羅斯科學院外籍院士、中國科學院外籍院士、美國科學院院士、美國藝術與科學院院士。丘教授是世界上最受敬仰的數學家之一。他獲得過十個頂尖大學所頒發的榮譽學位，包括哈佛大學、台灣大學、浙江大學、香港中文大學及澳門大學等，以表彰他在微分幾何、微分方程式以及廣義相對論領域的超凡貢獻以及深遠影響。

此外，丘教授還是《微分幾何雜誌》(Journal of Differential Geometry)、《理論數學及物理的發展》(Advances in Theoretical Mathematics and Physics)、《偏微分方程式的動力學》(Dynamics of Partial Differential Equations)、《數字理論與物理學的對話》(Communications in Number Theory and Physics) 以及《亞洲數學期刊》(Asian Journal of Mathematics) 的主編。

丘成桐教授是著名的美籍華裔數學家。他對微分幾何做出了革命性的貢獻，揭示了各種科學學科（包括微分幾何、代數幾何、拓撲、偏微分方程式、廣義相對論以及弦理論）當中所固有的幾何結構。1976年，他證實了卡拉比猜想，他所發現的新空間被稱為“卡拉比-丘流形”，成為現代物理學家們解釋宇宙本質的弦理論的基石。

他將偏微分方程式方法革命性的用於微分幾何領域的研究，對幾何學產生了深遠的影響。他不光是傑出的數學家，還是誨人不倦的教育家。他培養過50多個博士生，其中很多都已成為著名的數學家。此外，他還獲得過諸多獎項：包括1981年獲得美國科學院頒發的卡迪數學獎 (Carty Prize of the National Academy) 以及威伯倫獎 (Veblen Prize)；1982年榮獲的國際數學界最高榮譽的菲爾茲獎 (Fields Medal)，即相當於數學界的諾貝爾獎；1985年獲得的麥克亞瑟獎 (John D. and Catherine T. MacArthur Fellowship)；1991年獲得的德國宏博研究獎 (the Humboldt Research Award)；1994年獲得的瑞典克拉福特獎 (Crafoord Prize of the Royal Swedish Academy)；1997年獲得的美國國家科學獎 (The National Medal of Science)；2003榮獲的「二零零三年中華人民共和國國際科學技術合作獎」；以及2010年獲得的沃爾夫數學獎 (2010 Wolf Prize Laureate in Mathematics)。

他研究整體微分方程的新方法強而有力，且影響了物理學中的廣義相對論。曾被公認為50歲以下最具影響力的世界級數學家。

## **Shing-Tung Yau (丘成桐)**

William Caspar Graustein Professor of Mathematics,  
Chairman of the Mathematics Department  
Harvard University.



### Biography

Prof. Shing-Tung Yau was born April 4, 1949 in China. When he was fourteen, he moved to Hong Kong with his family where, after graduating from Pui Ching Middle School, he studied mathematics at The Chinese University of Hong Kong from 1966 to 1969. He undertook graduate studies at the University of California, Berkeley, where his advisor was Shiing-Shen Chern. He received his Ph.D. from the University of California, Berkeley in 1971. He then spent a post-doctoral year at the Institute for Advanced Study and then another two years as an assistant professor at the State University of New York at Stony Brook. Afterwards, he served as a Chair Professor at Princeton University, the State University of New York and Stanford University. Prof. Yau is a Chair Professor at Harvard University since 1987, and Director of the Institute of Mathematical Science and Distinguished Professor-at-Large at The Chinese University of Hong Kong since 1994 and 2003.

Prof. Yau is currently the William Caspar Graustein Professor of Mathematics and the Chairman of the Mathematics Department at Harvard University. He is also the Director of The Institute of Mathematical Sciences at The Chinese University of Hong Kong in Hong Kong, the Morningside Center of Mathematics at Academia Sinica in China, the Centre of Mathematical Sciences at the Zhejiang University in China, and the Tsinghua Mathematical Sciences Center in China. He is a Foreign Member of the National Academy of Lincei, Italy, the Russian Academy of Sciences, and the Chinese Academy of Sciences. He is a member of the National Academy of Sciences and the Academy of Arts and Sciences. Prof. Yau is one of the most respected mathematicians in the world. He received more than 10 honorary degrees from top universities around the world, including Harvard, National Taiwan University, Zhejiang University, The Chinese University of Hong Kong, and the University of Macau for his seminal contributions in differential geometry, differential equations and general relativity.

Moreover, Prof. Yau is the Editor-in-Chief of the *Journal of Differential Geometry* (1980–present), *Advances in Theoretical Mathematics and Physics* (1997–present), *Dynamics of Partial Differential Equations* (2004–present), *Communications in Number Theory and Physics* (2007–present), and the *Asian Journal of Mathematics* (1997–present).

Prof. Yau is an eminent Chinese American mathematician. He has made fundamental contributions to differential geometry which have uncovered deep intrinsic geometric structures in an astonishingly wide range of scientific disciplines like differential geometry, algebraic geometry, topology, partial Differential equations, general relativity and string theory. In 1976 he proved Calabi's conjecture on a class of manifolds now named Calabi-Yau manifolds, which has now become the geometric ground where physicists build their string theory.

His revolutionary use of the methods of partial differential equations in the area of differential geometry has had a lasting impact on geometry. Prof. Yau is renowned as an energetic teacher and educator. He has advised more than 50 Ph.D. students, with many of them prominent mathematicians. Meanwhile, Prof. Yau has received a number of awards. These include the Oswald Veblen Prize in Geometry (1981); the John J. Carty Award for the Advancement of Science of the National Academy of Sciences (1981); the Fields Medal in 1982, the John D. and Catherine T. MacArthur Fellowship (1985); the Humboldt Research Award (1991); the Crafoord Prize of the Royal Swedish Academy of Sciences (1994); the (U.S.) National Medal of Science in 1997; the International Scientific and Technological Cooperation Award of China (2003); and The 2010 Wolf Prize Laureate in Mathematics.