

Citation for Sung-Yung Alice Chang, ICM Emmy Noether Lecturer 2018

The 2018 ICM Emmy Noether Lecturer is Sung-Yung Alice Chang for her leading contributions to harmonic analysis, geometric analysis, differential geometry and partial differential equations.

With her collaborators, Alice Chang developed a multiparameter theory to a level comparable to the classical Calderon-Zygmund theory in the one parameter setting, a true milestone in the area of singular integrals. These operators occur in many contexts, from the most pure areas such as complex analysis and Fourier analysis, to partial differential equations, and to some important applications in fields spanning medicine and signal processing. The broad scientific impact of Alice Chang's contributions include conformal geometry, and in particular her groundbreaking study of Monge-Ampere type equations.

Besides her deep contributions in mathematics, Alice Chang has been a mentor to many young researchers, and served the mathematical community in several capacities, including chairing the Department of Mathematics at Princeton and having been a member of the Program Committee for ICM2014.

Alice Chang earned her PhD in Berkeley in 1974, under the direction of D. Sarason. She has held positions at UCLA and Berkeley, and in 1998 she moved to Princeton, where she is now the Eugene Higgins Professor of Mathematics.

Alice Chang was an invited speaker at ICM1986 and a plenary speaker at ICM2002, and was awarded the Ruth Lyttle Satter Prize from the AMS in 1995. She is a Fellow of the American Academy of Arts and Science since 2008, a Member of the National Academy of Sciences of the USA since 2009, and an Academician of the Academia Sinica, Republic of China, since 2012. She delivered the AMS Colloquium Lectures in 2005. In 2013, she received an honorary degree from the University Pierre and Marie Curie in Paris.