

## Preface

*Special Issue Dedicated to Professor Shanzhen Lu's 80th Birthday*



This special issue is dedicated to Professor Shanzhen Lu for the celebration of his 80th birthday and for honoring his research and education career in mathematics for more than 50 years.

Professor Lu was born in 1939 in Wenzhou, a coastal city in Zhejiang Province, China. In 1957, after his high school in Wenzhou, Professor Lu studied at the Department of Mathematics of East China Normal University from 1957 to 1961. Professor Lu graduated in July, 1961 in ECNU and from that on, he has worked at the Department of Mathematics of Beijing Normal University (BNU) for more than a half century as a faculty member. During the period of 1980-1982, Professor Lu visited the Washington University, St. Louis in USA. Soon after returning to BNU, he was promoted to full professor in a fast track, and then became a member of the Ph.D supervision faculty in 1984.

Professor Lu was the Head of Mathematics Research Institute of BNU from 1992 to 1994. From 1995 to 1999, Professor Lu became the first elected president of Beijing Normal University. In 2012, he was invited to become the first president of Wenzhou-Kean University,

a joint university held by Kean University in USA and the government of Wenzhou city. Professor Lu was a member of the Fourth State Council Academic Degrees Committee and a member of mathematics group of the Fifth State Council Academic Degrees Committee. Professor Lu was a member of the Seventh and the Eighth Chinese People's Political Consultative Conference and a deputy to the Ninth and the Tenth National People's Congress of China.

As an outstanding mathematician who specializes in harmonic analysis, Professor Lu has made important mathematical contributions in a number of subjects in harmonic analysis and applications, such as the Bochner-Riesz means operator, the convergence of higher dimensional Fourier series, integral operators (including singular and oscillatory integral, fractional integral) and their commutators, the theory of Hardy space and Herz space, etc. These solid research results produced more than 100 papers and 7 monographs by Professor Lu. The most important and significant representative works of Professor Lu and his cooperators include

- Solved the Fefferman's conjecture on the convergence almost everywhere of multiple Fourier series;
- Solved an 36 years open problem on strong mean convergence of multiple Fourier series;
- Opened a new direction of studying the approximation in higher dimensional real Hardy space;
- Established a criterion on  $L^p$  boundedness of the oscillatory singular integral operator with rough kernel.

During his academic career, Professor Lu has been supported by many research grants from NNSF of China and Ministry of Education of China. He was one of the co-investigators in charge of the sub-program "Modern Analysis" of Chinese National 973 program. Moreover, he was the Chinese scholar responsible for the "China-Austria Cooperation Program".

Professor Lu was invited as plenary speaker in many international conferences held in and outside China. He was a member of Local Organizing Committee of ICM2002 and the Chair of the Scientific Committee of the Satellite Conference "Harmonic Analysis and Its Applications" of ICM2002.

Professor Lu was one of the early supporters of Analysis in Theory and Applications. Moreover, Professor Lu was also a member of editorial board of some mathematics journals, such as "Science China Math.", "Acta Math. Sinica (E.S.)", "Advances in Math. (China)", "Front. Math. China", etc.

Professor Lu is one of the pioneers in developing modern harmonic analysis in China. He initiated and organized several large international conferences on harmonic analysis, and invited many famous overseas scholars to visit China, which promote strongly the academic interchange between Chinese and overseas scholars in the field of harmonic analysis. Under a great effort by Professor Lu and other older generation mathematicians worked in