

## Dr. Kening Lu



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Kening Lu is a professor at the School of Mathematics, Sichuan University, where he currently serves as the Academic Dean. He is also the Vice President of the 14th Council of the Chinese Mathematical Society. In 2017, he was awarded the inaugural "Zhang Zhifen Mathematics Award" for his significant contributions to ordinary differential equations, bifurcation theory, and dynamical systems. In 2021, he was elected as a Fellow of the American Mathematical Society. Kening Lu is currently the Co-Editor-in-Chief of the Journal of Differential Equations and serves on the editorial boards of five mathematical journals, including Science China: Mathematics (English Edition). He earned his bachelor's degree in mathematics from Sichuan University in 1982, followed by a master's degree in 1985. He then obtained his Ph.D. in mathematics from Michigan State University in 1988. Subsequently, he conducted postdoctoral research at the Georgia Institute of Technology and the Institute for Mathematics and its Applications at the University of Minnesota. He had held faculty positions as a professor of mathematics at Brigham Young University and Michigan State University. His research focuses on infinite-dimensional and stochastic dynamical systems, including invariant manifolds and foliations, ergodicity, Lyapunov exponents, SRB measures, entropy, chaos, statistical dynamics, as well as smooth linearization and normal form theory for stochastic dynamical systems.

Title: Turbulence, Lyapunov exponents, and SRB measures in infinite-dimensional dynamical systems

### Abstract:

In this talk, I will report several results concerning Lyapunov exponents, SRB measures, entropy, and horseshoes for infinite-dimensional dynamical systems. Additionally, I will present recent work on ergodicity and statistical dynamics of the 2-D Navier-Stokes equation driven by both a time-dependent deterministic force and a stochastic force. The relationship between SRB measures and turbulence will also be addressed.