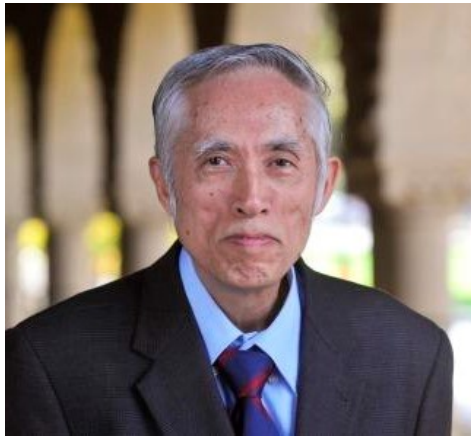


## DEPARTMENT OF STATISTICS

**Tze Leung Lai**

Department of Statistics  
Stanford University



*From stochastic optimization to dynamic data depth, and from domain-specific probability models to evaluation of model-based probability forecasts*

**Monday, September 13<sup>th</sup>, 2021  
4:30 PM EST**

**Zoom Meeting: Meeting ID: 924 8283 7055  
Password: 378160**

<https://rutgers.zoom.us/j/92482837055?pwd=TktKVVU2Z1JzZnZQbm1TNUU3K0pmZz09>

***Virtual Coffee session before the seminar at 4:15 PM EST***

**Abstract:**

The first part of the talk is based on my chapter “Martingales in Statistics and Stochastic Optimization”, covering the period 1933-2021, in the forthcoming Springer book *The Splendors and Miseries of Martingales: Their History from the Casino to Mathematics* “*The Splendors ... to Mathematics*” edited by Glenn Shafer and Laurent Mazlick. The second part is based on a related survey/position paper on domain-specific probability definitions and stochastic models, which have been in the probability/statistics literature from 1933 to today (and in other disciplines). It concludes with the martingale approach to the evaluation of model-based probability forecasts and gives some empirical examples.

**Bio:**

Tze Leung Lai is Ray Lyman Wilbur Professor of Statistics and, by courtesy, of Biomedical Data Science in the School of Medicine and of the Institute for Computational & Mathematical Engineering (ICME) in the School of Engineering. He is Director of the Financial and Risk Modeling Institute (FARM) at Stanford, Codirector of the Center for Innovative Study Design, a core member of the Stanford Comprehensive Cancer Institute, Center for Precision Mental Health and Wellness, and Center for Population Health Sciences, and Faculty Fellow with the Center for Innovations in Global Health. He is the honorary dean of the Center for Financial Technology and Risk Analytics at Fudan University and visiting chair professor at Southwestern University of Finance and Economics in Chengdu, China

