

运筹学与信息科学研究所

Department of Operations Research and Information Science

学术报告

题目： Beyond Regularity: Simple versus Optimal Mechanisms, Revisited

报告人： Yiding Feng 助理教授，香港科技大学

时间： 12月25日（星期三） 14:30 – 15:30

地点： 数学院南楼 N613

摘要： A large proportion of the Bayesian mechanism design literature is restricted to the family of **regular** distributions or the family of **monotone hazard rate (MHR)** distributions, which overshadows this beautiful and well-developed theory. We (re-)introduce two generalizations, the family of **quasi-regular** distributions and the family of **quasi-MHR** distributions. All four families together form a hierarchy.

The significance of our new families is manifold. First, their defining conditions are immediate relaxations of the regularity/MHR conditions (i.e., monotonicity of the virtual value functions and/or the hazard rate functions), which reflect economic intuition. Second, they satisfy natural mathematical properties (about order statistics) that both original families violate. Third but foremost, numerous results established before for regular/MHR distributions now can be generalized, with or even without quantitative losses.

This talk is based on the joint work with Yaonan Jin (Huawei TCS Lab).

报告人简介： Yiding Feng is an assistant professor at HKUST IEDA. Previously, he worked as a principal researcher at the University of Chicago Booth School of Business, and a postdoctoral researcher at Microsoft Research New England. He received his Ph.D. from the Department of Computer Science at Northwestern University in 2021, and his BS degree from ACM Honors Class at Shanghai Jiao Tong University in 2016. His research focuses on operations research, economics & computation, and theoretical computer science. He was the recipient of the INFORMS Auctions and Market Design (AMD) Michael H. Rothkopf Junior Researcher Paper Prize, and the APORS Young Researcher Best Paper Award.