YIMING ZHAO, Syracuse University

The Minkowski problem in Gaussian probability space

The classical Minkowski problem, which asks for the characterization of surface area measure in Euclidean space with Lebesgue measure, largely motivated the development of elliptic PDEs throughout the last century. In this talk, we will discuss the corresponding problem in Gaussian probability space. Lack of homogeneity and translation invariance make this problem fundamentally different from the classical problem. We will discuss existence results (in all dimensions) as well as uniqueness results (in dimension 2). This is based on joint works with Yong Huang, Dongmeng Xi, and with Shibing Chen, Shengnan Hu, Weiru Liu.