1146-60-96 **Ming Liao*** (liaomin@auburn.edu), Department of Mathematics and Statistics, Auburn University, AL 36849. *Invariant Markov processes under actions of Lie groups.*

Abstract: The invariance under a group action is a central theme in mathematics. In probability theory, the invariance of probability distributions under various transformations has played an important role. In the classical theory, the translation invariant Markov processes in a Euclidean space can be identified with Lévy processes, which are characterized by independent and stationary increments. By the celebrated Lévy-Khinchin formula, a Lévy process may be represented by a triple of a drift vector, a covariance matrix and a Lévy measure, in the sense that its probability distribution is determined by the triple, and to any such triple, there is an associated Lévy process. The purpose of this talk is to present a representation theory for more general invariant Markov processes under the action of a Lie group, in the spirit of the classical Lévy Khinchin representation. (Received January 10, 2019)