F. Baudoin (fabrice.baudoin@uconn.edu), D. Nizar (nizar.demni@univ-rennes1.fr) and J. Wang* (jingwang@purdue.edu). Quaternionic stochastic area and Hopf fibrations.

In this talk we study the stochastic area processes on the quaternionic symmetric spaces $\mathbb{H}P^n$ and $\mathbb{H}H^n$, and obtain the limiting laws of these processes. The key idea is to take advantage on the intimate connections of theses area processes to the horizontal Brownian motions on the quaternionic sphere $\mathbb{S}^{2n+1}$ and quaternionic anti-de Sitter space $\text{AdS}^{4n+3}(\mathbb{H})$, through the quaternionic Hopf fibrations. This is a joint work with F. Baudoin and D. Nizar. (Received February 04, 2019)