**Physics** & **Astronomy**

Colloquium

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**Dr. Venkatessh Ramakrishnan**

Texas Tech University

**3:30 - 4:30 p.m. | Tuesday, Feb. 18**

**Science Building 234**

**Roadmap to the compendium of supermassive black hole images**

Following the transformational science enabled by the Event Horizon Telescope, we now focus on expanding the parameter space in terms of mass, spin and the role of magnetic field in extreme gravitational environment. It is thus imperative that imaging the silhouette of several black holes, beyond SgrA\* and M87\*, will provide vital constraints that will also probe the nature of (non-) General Relativity on a cosmological scale. I will present from an ongoing study with the EHT to image the photon rings and accretion flows of more AGNs in the nearby Universe. The structure of accretion flows will be driven fundamentally by their efficiency which will impact the opacity of the photon ring at the resolution set by the EHT. I will also show how the next-generation VLBI observations both from ground and space can be fundamental in this endeavour.

**Refreshments at 3 p.m. | SC 103**