

## Two Distinct Objects in the Galactic Center: The Supermassive Black Hole and a Population of Synchrotron Filaments



Colloquium talk  
by

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Observations over the past two decades have established that Sagittarius A\* (Sgr A\*), a 4.3 million solar mass black hole, resides at the Galactic center, consistent with general relativity. Its variable emission, including infrared and X-ray flares, probes accretion processes within a few Schwarzschild radii. I will present recent multi-wavelength results and discuss a unified framework for the flaring emission across infrared, X-ray, and radio bands. I will further examine the possible connection between past activity of Sgr A\* and the origin of the synchrotron filaments in the Galactic center, emphasizing scenarios in which they arise from relativistic particles and magnetic fields powered by past activity of Sgr A\*



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HS C, Victor-Franz-Hess-Haus

**Organizers:** Katrin Erath-Dulitz, Hanns-Christoph Nägerl, Francine Marleau