Abstract:

Black holes are among the most fascinating astrophysical objects and have long entranced the public. For over three decades, the giant elliptical galaxy Messier 87 has hosted the most massive known black hole in the local universe. I will describe recent progress in discovering bigger black holes, of up to ten billion solar masses, in ongoing surveys of the centers of elliptical galaxies using 10-meter class telescopes, integral field spectrographs, and adaptive optics. These objects are possibly the dormant remnants of powerful quasars that existed in the young universe. The existence of these black holes has far-reaching implications for the evolution of galaxies.