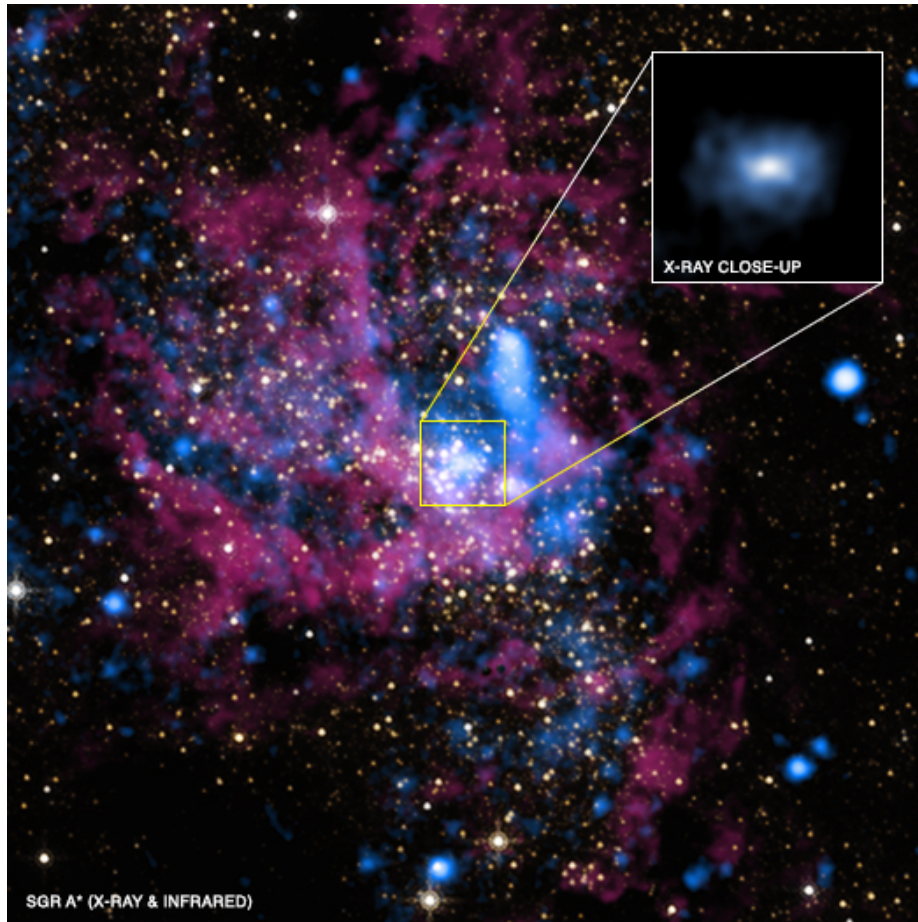




# Chandra Science Highlight

## Sagittarius A\*: NASA'S Chandra Catches Our Galaxy's Giant Black Hole Rejecting Food



The large image shows the region around Sagittarius A\* (Sgr A\*), the 4-million solar mass black hole at the center of the Galaxy. X-rays from Chandra are shown in blue and infrared emission from the Hubble Space Telescope in red and yellow. The inset shows a close-up X-ray view of Sgr A\* that covers a region half a light year wide.

- ❑ The X-ray spectrum is consistent with a model in which gas radiates inefficiently as it flows almost radially into the black hole.
- ❑ The likely origin of the gas is mass loss in winds from massive stars in the vicinity of Sgr A\*.
- ❑ The X-ray spectrum and luminosity indicate that less than 1% of the available gas is captured by the black hole, with the rest ejected in a wind.
- ❑ The X-ray data rule out a model in which the X-ray emission comes from a concentration of low-mass stars around the black hole.

Reference: Reference: Wang, Q.D. et al., 2013, Science (in press); arXiv:1307.5845

Credit: X-ray: NASA/UMass/D.Wang et al., IR: NASA/STScI

**Scale:** Wide-field: 1 arcmin across (about 7.5 light years)    **Distance Estimate:** 26,000 light years  
Close-up: about 4 arcsec (about 0.5 light year)

**Instrument:** ACIS

**September 2013**

CXC operated for NASA by the Smithsonian Astrophysical Observatory