



**Chandra X-Ray
Observatory Center**

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NGC 4649: An elliptical galaxy about 60 million light years from Earth.
Credit: NASA/CXC/UVa/S.Randall et al.

The Chandra X-ray image of NGC 4649 reveals a large, bright cloud of hot gas with 165 point-like sources most of which are black holes and neutron stars in binary star systems. The detection by Chandra of numerous neutron stars and black holes in elliptical galaxies indicate that they once contained many very bright, massive stars, in marked contrast to their present population of old, low-mass, faint stars. The hot gas cloud filling the galaxy has a temperature of about 10 million degrees Celsius. In the bright central region there appear to be bright fingers of X-ray emission which could be due to rising cells of hot gas.

Scale: Image is 8 arcmin on a side.
Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory