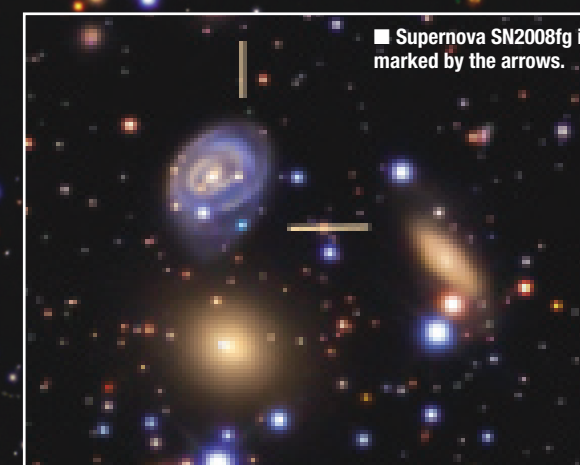
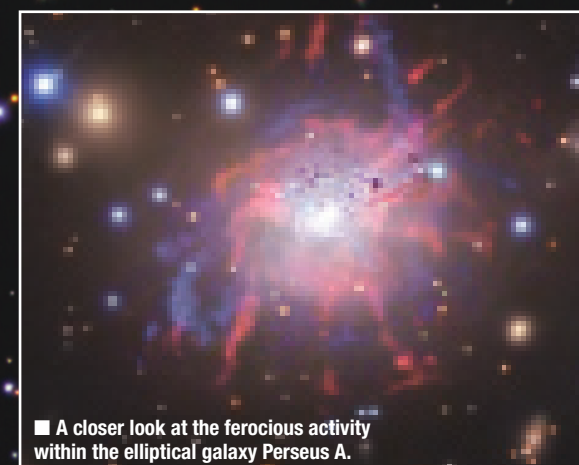


The great Perseus Galaxy Cluster

Galaxy clusters are amazing regions of the Universe, containing many hundreds of galaxies interacting with one another, making for very dynamic locations to study and image.



▲ The Perseus Cluster, imaged by R Jay GaBany, using a RCOS 20-inch f/8 telescope and an SBIG STL-11000 CCD, with 945 minutes luminance, 180 minutes red, 108 minutes green, 216 minutes blue and 435 minutes at hydrogen-alpha wavelengths.

This fabulous wide-field shot of the giant Perseus Galaxy Cluster (also designated Abell 426) by American astrophotographer R Jay GaBany captures all manner of galactic goings on, from active galaxies 'vomiting' plumes of gas into the intra-cluster medium, to exploding stars. It is a menagerie of many and varied galaxies, from enormous ellipticals to striking spirals, and everything in between.

Two hundred and fifty million light years from our Milky Way, the Perseus Cluster is formed around the

hub of its most gigantic galaxy, NGC 1275 – more commonly known as Perseus A (see first inset). This violent galaxy is an elliptical with a supermassive black hole within it, from which feedback is blowing blobs of cold gas out of the galaxy, trailing huge filaments 20,000 light years long in their wake. These filaments are like tendrils reaching out into extragalactic space. The grip of a powerful magnetic field that encapsulates the whole cluster prevents the fragile filaments from breaking, allowing them to maintain their structure and

grow for 100 million years, or more.

In all, the Perseus Cluster contains around 500 galaxies, and Jay GaBany has captured the stunning central 1.5-million light year wide region. The large yellow elliptical on the right of Perseus A is NGC 1272, with other elliptical and lenticular galaxies stretching away like a string of pearls. GaBany's image also managed to capture a supernova erupting in one of the smaller spirals, the ringed spiral NGC 1268 (see second inset). This supernova, SN2008fg, was

discovered on 30 August 2008 by the robotic KAIT survey at the Lick Observatory in California. It signalled the destruction of a white dwarf in a binary system located in one of the outer spiral arms – a so-called 'type Ia' supernova. Also look out for the fantastic face-on ring galaxy NGC 1264 on the far right.

To see more of Jay GaBany's astrophotography, log on to www.cosmotography.com.

Keith Cooper is the Editor of Astronomy Now.