

## HEAVENLY NEWS

### “Star Clusters”

By Nicole Gauthier, Lead Docent CPRC Community Observatory

In the past month you have read about “Star Parties” followed by the “Lives of Stars” in the Heavenly News column. This week the focus is on “star clusters” which are groups of stars. Star clusters are commonly distinguished as either globular clusters or open clusters. Globular clusters are tight groups of hundreds of thousands of very old stars which are gravitationally bound; while open clusters, are a more loosely clustered group of stars, generally containing less than a few hundred stars, and are often very young.

Globular clusters are roughly spherical groupings packed into regions from 10 to 30 light years across. [A light year is a measure of distance (not time), that light travels in one year.] Globular clusters commonly consist of very old stars -- just a few hundred million years younger than the universe itself. The “Milky Way Galaxy”, has about 150 globular clusters, some of which may have been captured from small galaxies disrupted by the Milky Way.

Open clusters are very different from globular clusters. They are generally young objects, up to a few tens of millions of years old and usually contain up to a few hundred stars, within a region up to about 30 light years across. Since open clusters are much less densely populated than globular clusters, they are much less tightly gravitationally bound, and over time, open clusters are disrupted by the gravity of giant molecular clouds and other clusters. The most prominent open clusters are the Pleiades and Hyades in the constellation Taurus.

The CPRC Community Observatory – “June Viewing Guide” created by Lead Docent, Forrest Lockhart, includes the following globular star clusters:

M3 is an impressive 6th magnitude, globular cluster in the constellation Canes Venatici (CAH-nee-z vĕ-NAT-ih-si). Spanning 180 – 200 light years in diameter, this outstanding globular contains nearly 500,000 stars.

M5 is a globular cluster in the constellation Serpens (SIR-penz, the “Serpent”). Discovered by Gottfried Kirch in 1702, this 5.6 magnitude conglomeration of stars is about 13 billion years old and is approximately 165 light years in diameter.

M13 is a 5.8 magnitude globular cluster in the constellation Hercules (HER-cue-leez). The great globular cluster in Hercules, is considered the finest globular in the northern hemisphere. This object has a diameter of 120 light years and a population of approximately 500,000 stars.

M92 is a 6.4 magnitude globular cluster also found in the constellation Hercules. While upstaged by nearby M13, this object is quite impressive. With a diameter of 109 light years, it possesses about 330,000 stars.

To view these beautiful star clusters through 14-inch reflector telescopes, visit the CPRC Community Observatory in Placerville located behind the Folsom Lake College, El Dorado Center, on any Friday, Saturday or Sunday evening, 8:30 PM – 10:30 PM this summer. Information about the observatory, driving directions and closure notices may be found at [www.communityobservatory.com](http://www.communityobservatory.com). If you have your own telescope and would like to join a group of stargazing enthusiasts...the Sierra Stargazers (SSG) is hosting their June Star Party on Friday evening, June 19<sup>th</sup> - time, location and driving directions about this and future SSG star parties may be found at [www.sierrastargazers.org](http://www.sierrastargazers.org).