



The Meridian

Newsletter of the Quad Cities Astronomical Society • August 2013

Meeting Notes

John Robbins, Secretary

August 19. Meeting called to order at 7:05pm. Attended by 13: Dale Hendricks, Dana Taylor, John Baker, John Robbins, Jeff Struve, Matt Neilssen, Mitch White, Robert Mitchell, Bruce Brooker, Al Cattoir, Cecil Ward, Craig Cox, and David Heard.

Agenda

1. Treasurer's Report: The current balance is \$2,220.75.

2. Dale made an appeal to have members step forward and volunteer to make presentations at upcoming meetings,

Topics for upcoming months include:

September - stars, double & multiple stars, supernova remnants.

October - Uranus, Neptune, autumn galaxies.

November - Comets

December - Jupiter

January - The Sun

February - Spring galaxies & galaxy groups

March - The Moon (total lunar eclipse on 4/15).

April - Mars, Vesta, Ceres

May - Mercury & Quasar 3C273.

3. August 10 star party report: Four car loads of people came to roll-off roof observatory at Menke Observatory. Group enjoyed views of Moon, Jupiter and other objects. Saw shooting stars and satellites. Greatly appreciated by all who came out that night.

4. Dana reported that classic ribbed roofing material would cost about \$250 from supplier in Clinton. A couple members indicated a willingness to supply \$100, each, to help fund the project.

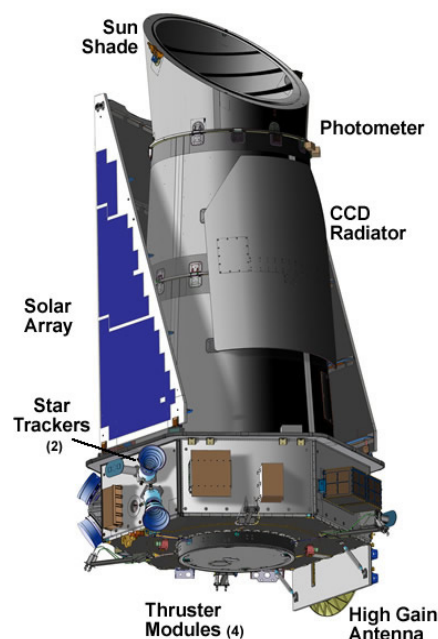
5. Craig Cox 16" telescope still available. Craig agreed to allow QCAS to test it in our new dome. Motion made by John Baker (seconded by Bruce Brooker)

to purchase Craig's scope for \$1000.00. Motion is contingent on whether the scope fits and works well (to everyone's satisfaction) in the new dome.

6. John Baker gave an impromptu presentation of time-lapse views of the sky during the Perseid meteor shower. A photo of John's, taken on July 28th, was published on the Space Weather web site. Based on the trail of the moving object, our best guess is that it's a meteor, but the wobbles seen in the path are quite unexpected. The photo can be seen on the next page.

7. Dana gave a demonstration of an app on his tablet called *Distant Suns*. A terrific star charting app for various mobile platforms that Dana says has "replaced his use of paper star charts."

8. John Baker and Bruce Brooker spoke about some of the exoplanet searching they've been doing as part of the public hunt for exoplanets based on images and data accumulated by NASA's Kepler instrument. See article inside this issue.



The Kepler instrument (left) has the sensitivity to detect an Earth-size transit of an $m_v=12$ G2V (solar-like) star at 4 sigma in 6.5 hours of integration. The instrument has a spectral bandpass from 400 nm to 850 nm. Data from the individual pixels that make up each star of the 100,000 main-sequence stars brighter than $m_v=14$ are recorded continuously and simultaneously. The data are stored on the spacecraft and transmitted to the ground about once a month.



Trail of something moving as it passes M51 in Canes Venatici. John Baker, who took this photo, believes that it is a tumbling meteor.

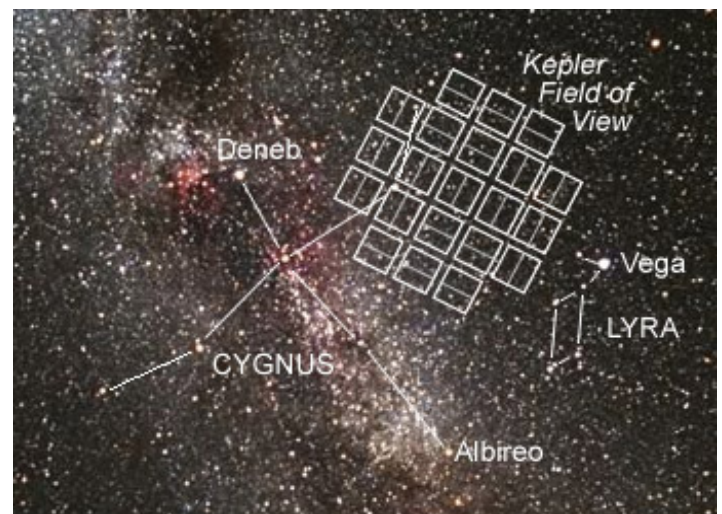
Citizen Science

The Hunt for Exoplanets

Planet Hunters is a citizen science project that makes it possible for anyone to sieve through data taken by the NASA Kepler space mission. The Kepler spacecraft takes brightness measurements, or “light curves,” of over 150,000 stars every 30 minutes. People can then hunt for planets by looking for a brief dip in bright-

ness that occurs when a planet passes in front of the star.

On March 2009, the NASA Kepler mission was launched with the goal of using the transit technique to detect exoplanets: terrestrial and larger planets orbiting other stars. With this method, planets that pass in front of their host stars block out some of the starlight causing the star to dim slightly for a few hours. The Kepler spacecraft stares at a field of stars in the Cygnus constellation and records the brightness of those stars every thirty minutes to search for transiting planets.

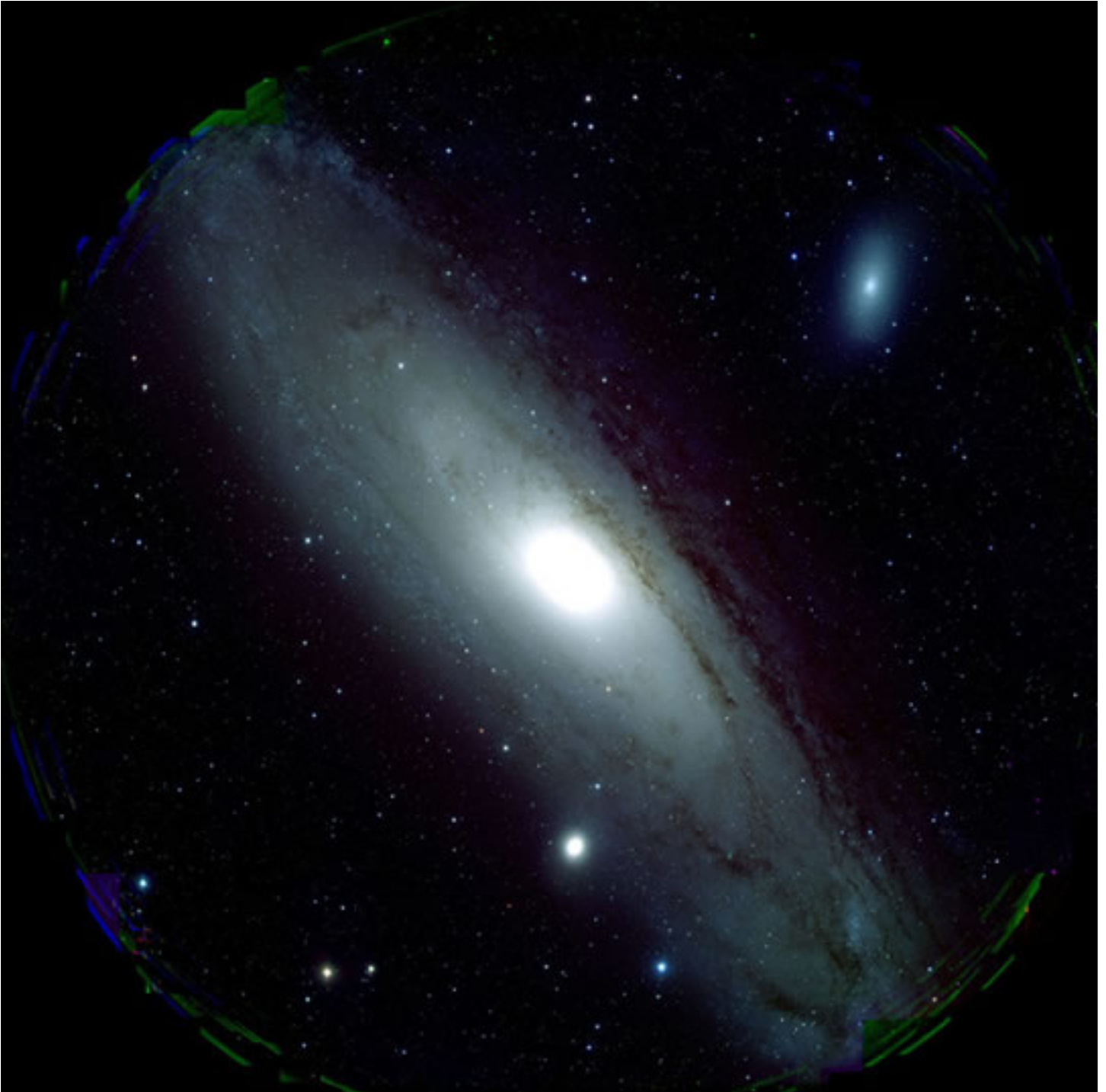


The time series of brightness measurements for a star is called a light curve. The Kepler spacecraft beams data for more than 150,000 stars to Earth at regular intervals. With every download of data, the time baseline of the light curves is extended.

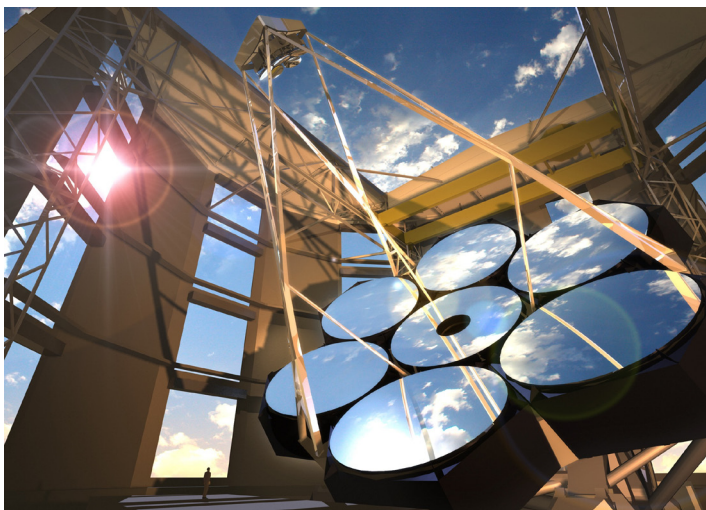
Since 1995, more than 500 exoplanets have been discovered by various techniques and it appears that roughly half of the stars in the sky have planets.

For more information and tutorials on how to get started, see <http://www.planethunters.org>. [information from [planethunters.org](http://www.planethunters.org) and exoplanets.astro.yale.edu.]

M31 - The Great Andromeda Galaxy



A stunning image of M31 captured by Subaru Telescope's Hyper Suprime-Cam (HSC) displays the fruits of international collaboration and technological sophistication aligned with cutting-edge science. In addition to providing information about a nearby galaxy that resembles our own, this image demonstrates HSC's capability to fulfill Subaru Telescope's intention of producing a large-scale survey of the Universe. The combination of a large mirror, a wide field of view, and sharp imaging represents a giant step into a new era of observational astronomy and will contribute to answering questions about the nature of dark energy and matter. It marks another successful stage in HSC's commissioning process, which involves checking all of HSC's capabilities before it is ready for open use. [Image credit: National Astronomical Observatory of Japan, <http://www.nao.ac.jp>]

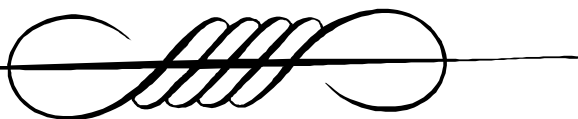


An artist's illustration of the completed Giant Magellan Telescope atop Las Campanas Peak in Chile's Atacama Desert. The 80-foot (24.5-meter) telescope will consist of seven primary mirrors and feature an advanced adaptive optics system. It will be one of the largest on Earth when it's up and running in 2020.

Credit: Giant Magellan Telescope - GMT Corporation



M8, The Lagoon Nebula in Sagittarius, an active stellar nursery about 5,000 light-years distant. Hot stars in the embedded open star cluster NGC 6530 power the nebular glow. Image: Ignacio Diaz Bobillo. APOD (Astronomy Photo of the Day) on August 17th.



QCAS Officers and Contacts

President: Dale Hendricks
 Secretary: John Robbins
 Director: Dana Taylor
 Web Master: Dana Taylor
 Programming: Jim Rutenbeck

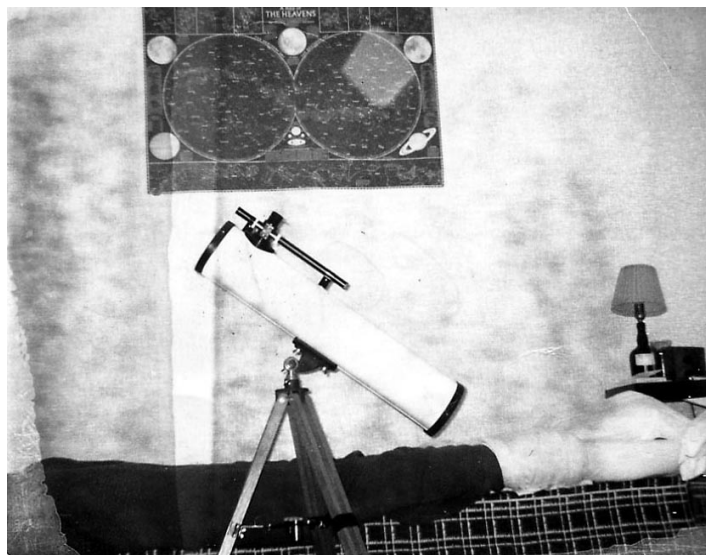
Vice-president: Craig Cox
 Treasurer: John Baker
 Facilities: John Baker
 Outreach: Matt Nielssen

Calendar

August 30: Prairie Skies Star Party registration deadline. (party is on Oct. 3-6)
 August 31: **QCAS open house** - Scout visit.
 September 5: New Moon
 September 7: Menke Star Party
 September 8: Moon, Venus & Saturn conjunction
 September 12: First quarter Moon
 September 17: **7:00pm QCAS meeting**
 September 19: Full Moon
 September 22: Autumnal Equinox @ 15:44
 September 27 & 28: Eastern Iowa Star Party

Member Scopes. If you have a photo of one of your old (or new) telescopes, please share it!

This was John Robbins' Lafayette 4" Meteor Newtonian. His first telescope, with an altazimuth mount. Non-magnifying finder scope, later replaced with a 6x30 Edmund Scientific finder. Photo taken in 1968, DeKalb, IL.



Meetings: Third Monday, 7:00pm, Bettendorf Library, 2950 Learning Campus Dr., off of 18th Street.

Correspondence

Please send to the society at:

P.O. Box 3706, Davenport, IA, 52808.

Members are welcome and encouraged to submit articles for The Meridian.

Submit Any and all interesting items (via e-mail) to: John Robbins or Dale Hendricks.