

Reflector

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The last Space Shuttle night launch
What am I going to observe tonight?
Deep Sky Objects: A pleasant surprise in Sculptor
Fifty Magnitudes—the range of visible brightness

Have you ever asked yourself the question, what am I going to observe tonight? Even worse, did you ask yourself this question after you have your scope set up and evening twilight is ending?

If you are working towards an **Astronomical League Observing Club** certificate, you will have the answer to this question. There are currently 111 Astronomical League members, active and past, who have completed 10 or more observing clubs to receive the **Master Observer Observing Club** certificate. Ten current Astronomical League members have received 20 or more observing club certificates, three of those with 30 or more certificates. The top observing club certificate holder has 36 observing club certificates to his name.

Why should you complete more observing clubs? Here is how the top 10 certificate holders answered a questionnaire sent to each.

When asked "What motivates you to start and complete so many Observing clubs?" **Brad Young (Astronomy Club of Tulsa)** said, "the structure of the clubs allows me to plan, set goals, and feel accomplishment when I am finished." **Robert Pitt (Birmingham Astronomical Society)** liked "the challenge of the club requirements which gives direction to my limited viewing opportunities."

Mike Ramirez (Northeast Florida Astronomical Society) said, "By starting with an observing club plan and setting goals to achieve that plan, I was able to keep going and complete the observing club." **Doug Brown (Minnesota Astronomical Society)** indicated that "it's a good structured way to observe. For me, if I don't have a plan for observing, I tend to gab too much instead of observing."

"There's never an evening sunset when I don't know what I'll be hunting down that coming night," said **Scott Kranz (Astronomical Society of Kansas City)**.

For **Mike Hotka (Longmont Astronomical Society)**, the motivation for completing so many observing clubs is "I like the hunt. Finding objects and actually seeing them." For **Aaron Clevenson (North Houston Astronomy Club)**, "I want



What am I going to observe tonight?

By **Brad Young and Mike Hotka**

to see it all! The problem is there are thousands and thousands of things to see. Where do I begin? The observing club lists obviously." **John Goar (Olympic Astronomical Society)** said "There is something exciting about hunting down a list of related objects." "Without the observing clubs I would be stuck in the mode of observing the same things over and over again," said Young. For **Kranz**, "The observing clubs keep me looking at new and off-the-beaten-track objects."

When the top 10 certificate holders were asked, "What observing club did you like the best?" — **Brown** likes the **Messier Observing Club** the best. For **Young**, he liked the **Earth Orbiting Satellite Observing Club**, while **Hotka** liked the **Lunar II Club**. "I had no idea you could see all kinds of subtle features on the lunar surface if the Sun angle was low enough. Shadows reveal a ton of lunar detail." **Clevenson's** favorite observing club was the **Planetary Observer's Club**. **Ted Forte (Back Bay Amateur Astronomers)** liked "the **Herschel 400** the best. The main reason is this club was best suited to my usual observing style. I liked the varied types of objects represented and the broad range of difficulty embodied in the objects." **Pitt** likes all the observing clubs he has completed, while **Ramirez** liked "two, one personal and one for the teacher in me. First, the personal club was **Lunar I Club** because I love to gaze back into time as to how Earth and other planets were formed. The second, which encompasses the first, is the **Outreach Club**. I love sharing the lunar features with people and seeing in their faces the awe that I

see every time I look into the eyepiece." **Kranz** liked the **Globular Cluster Club** the best. For **Goar**, "the **Comet Observers Club** was my favorite." **Jim Ketchum's (Astronomical Society of Kansas City)** "favorite was the **Globular Cluster Club**. It was relaxing, enjoyable and I'm partial to Globular Clusters."

Most of these ten observers all started out by receiving their **Messier Certificate** first. Since then, they have kept on going. And by completing more and more observing clubs, these people have become seasoned observers. Each observing club has something to teach you, whether you are more enlightened about the subject/objects or you learn new observing techniques to aid in your observing efforts.

When asked: What club taught you the most? — **Hotka** said, "the **Open Cluster Observing Club**. It taught me to make sure I have what I need in the field to find and observe faint objects. If I know I will be looking for faint objects, I will make sure I have a picture of the star field or other references to help me find the faint fuzzy I am looking for." The **Sunspotter Program** taught **Kranz** "the most about observing the object. I learned to categorize sunspots and sunspot groups. I learned that there was a lot more to see on the Sun than just random dark spots." This was also the case for **Clevenson**. He indicated, "although I know many things about many objects, I really found that I knew rather little about the Sun and its surface". **Forte** too liked "the **Sunspotter Club**, without a doubt. I found myself rather well-versed in the particulars of the other clubs that I have done. Still, I was no

stranger to the Sun either, for I had been casually observing the Sun for years. Doing the **Sunspotter Club**, however, opened up new questions for me and I became more interested in the mechanics of sunspots and the solar cycle. It made me a much bigger fan of our star." "The **Earth Orbiting Satellite Observing Club**, although the **Dark Nebula Club** was a very close second," said **Young** as he "had ignored both before the clubs were announced." **Ketchum** liked "both the **Lunar** and the **Lunar II** for they taught me so much about our closest neighbor. There is such a rich array of craters, mountains and plains that you can readily see and appreciate." **Goar** was able to "hone my star-hopping skills the most by completing the **Herschel 400 Club**. But just about every club taught me a unique skill, which I think is the most valuable thing about completing these programs."

"The **Messier Club** primarily because it was my first attempt to learn how to use charts and star hopping techniques. It taught [**Ramirez**] to become proficient in navigating the night sky." According to **Pitt**, "both the **Planetary Observer's** and **Open Cluster Observing Clubs** taught me the most about those objects. I liked the observing guides for these clubs and the descriptions of the characteristics to be documented. I appreciated the variety of these objects much more after gaining a better understanding of the classical descriptors applied to these objects and learning what features to look for when comparing different examples."

Next, the top 10 were asked, "What new techniques were learned while completing so many clubs?"

"Doing these clubs has made [**Forte**] a much more disciplined note taker and has encouraged me to sketch objects much more than I ever had before." **Goar** has "learned the sky well. I am able to star-hop with ease wherever I want to go." As is the case for **Ramirez** who "learned how to use charts and star-hopping techniques. I have become proficient in navigating the night sky." **Ketchum** "learned how to read star maps, whether hard copies or on a computer screen, to be able to pinpoint the

exact location of some of the really hard objects to see. I learned how to coax an object out of the dark sky by using **Averted Vision** techniques. Both take lots of practice, but pay huge dividends." For Hotka, "just being prepared for my observing session and making sure I have all the tools and references I need in the field to help me find faint objects." Clevenson has "perfected the techniques of finding faint fuzzies. And although I am no artist, I sketch everything. If you are not sketching, then you are missing much detail." "I

have become more proficient at star-hopping, averted vision, sketching, eyepiece/filter selection, planning, and the tracking and predictions required for satellites," said Young, but "most of all, I just have more confidence that I can see things I might otherwise think too difficult."

For Brown, it was "learning how to use equipment to its best advantage." Pitt learned that "patience and planning are the most important techniques that I have learned, along with dealing with frustrations. Most objects will come around again next

year if you miss them this year. Many of my observing skills, including patience, were dramatically improved with the experience gained from the different clubs." Krantz learned some valuable techniques he summarized as follows: "While hunting down faint and elusive objects, I learned scope tapping to get some movement in the field of view. Move your eye around the desired object to find your averted vision *sweet spot*. Use an eye patch on your non-observing eye and keep that eye open. Keep breathing! Without thinking about it, many times

you'll hold your breath trying to find something. Use a detailed image or digitized sky survey image in conjunction with a chart. Never give up! If you can't see it tonight, try again tomorrow night."

The Astronomical League has many great observing clubs for you to complete. All the information about these clubs is on the League's website. By looking at all the choices and picking those clubs that you are interested in, you too will be on your way to becoming a **Master Observer**, and beyond. ✨

2011 MSRAL Conference a "Soggy" Success

The 2011 conference of Mid States Region of the Astronomical League (MSRAL) was held at the Mulberry Mountain resort near Ozark, Arkansas, May 20th and 21st, under clouds and sometimes heavy rain. Although the clouds and rain washed out the planned coinciding 4th annual Mulberry Mountain Star Party, spirits were high and mostly dry during the MSRAL daylight gatherings. Fifty plus AL members from around the region gathered at the scenic Ozark Mountains retreat to hear addresses on variable star observing, astrophotography, the life and work of Gerard Kuiper, and responding to myths and misconceptions about astronomy.

Veteran planetaria director, college astronomy instructor, science writer and blogger, and Arkansas native Larry Sessions traveled from Denver, Colorado, to deliver the outstanding key note address "Cosmic Questions: Dealing with Myths and Misconceptions." Mr. Sessions' very entertaining speech covered such topics such as how to address common misconceptions that the general public have about astronomy and space and how to respond to pseudo-sciences such as UFO-ology and astrology. Mr. Sessions said he prefers the title "Cosmic awareness facilitator" to "amateur astronomer" to accurately describe our role when engaging the public.

Featured speaker Dr. Derek Sears, W. M. Keck, Professor of Space and Planetary Sciences, University of Arkansas, Fayetteville, presented a fascinating biographical sketch on planetary science pioneer Gerard Kuiper. Professor Sear's presentation was entitled "Gerard Kuiper and the Origins of Modern Planetary Sciences." Professor Sears reported that Dutch born and American citizen Kuiper made many significant planetary discoveries and proffered important theories on the make-up the solar system. Kuiper discovered Uranus's satellite Miranda and Neptune's satellite Nereid. In addition, he discovered carbon dioxide in the atmosphere of Mars and the existence of methane in the atmosphere of Titan. However, Kuiper is best known for his theory that outer solar system contains the foundation materials of the comets. Hence today the region of space beyond the orbit of Neptune is named in his honor as the "Kuiper Belt."

Rocky Togni, a former president of co-host Central Arkansas Astronomical Society (CAAS) and AL Variable Star Observing Club Coordinator started the morning session off with an excellent program on how to observe variable stars. John Reed also of CAAS followed with an informative, hands-on presentation on wide field astro-photography using an off-the-shelf digital single lens camera. John has quickly

established himself as one of the region's top astro-imagers. His presentation showed both his finest work and his tricks of the trade of digitally processing wide field astro-images. Jim Fisher of Arkansas Oklahoma Astronomical Society and CAAS made a "pinch hit" presentation on Saturday evening not because of a speaker cancellation, but because of the star party wash-out. During his fascinating presentation of the lives and careers of Tycho Brahe and Johannes Kepler called "CSI: Uraniborg!", Mr. Fisher reported on the ongoing investigation into the possibility that Kepler killed his mentor Tycho. Mr. Fisher presentation was based on the book *Heavenly Intrigue: Johannes Kepler, Tycho Brahe, and the Murder behind One of History's Greatest Scientific Discoveries* by Joshua Gilder and Anne-Lee Gilder.



Eric Balcom, left, presents Cook Feldman with the "Amateur Astronomer of the Year" award.

During the morning business meeting, Jim Small of the St. Louis Astronomical Society (SLAS) volunteered to be the new MSRAL Representative. Near the close of the conference the indomitable Cook Feldman of SLAS was named the Mid States Region "Amateur Astronomer of the Year." This award recognizes one MSRAL astronomer for outstanding accomplishments and service. Eric Balcom of the Omaha Astronomical Society and last year's recipient presented this year's honor to Mr. Feldman.

Mr. Feldman's recognition as astronomer of the year is well deserved. He has logged more than 280 hours of public outreach service since 2007. He said that he participates in up to 50 SLAS star parties, meetings and programs per year! In addition, Mr. Feldman has been awarded numerous AL observing awards and is an accomplished telescope maker. He is also a founding member of the St. Louis Science Center monthly telescope viewing sessions, which this reporter attended and thoroughly enjoyed in 1997 shortly after getting back into astronomy.

The 2011 MSRAL conference was hosted by the AOAS with the assistance of CAAS. AOAS President Dave Grosvold admirably served as the conference chair. Other highlights of the conference included the Saturday evening "Starless"-B-Q and a near endless stream of awesome, unique and valuable door prizes that were accumulated by AOAS member Leonard Lynch. Despite the disappointing clouds, the conference amenities and the southern hospitality could not have been better! ✨

Jim Fisher
President, Central Arkansas Astronomical Society
Vice Chair, 2011 MSRAL Conference