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ISSUE NO.57 | JULY 2013

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AAVSO Newsletter

FROM THE DIRECTOR'S DESK

ARNE A. HENDEN (HQA)



We just finished a really nice spring meeting at Boone, North Carolina. While the attendance was not as high as we would have liked, we had several new attendees from the region. Lee Hawkins and Dan Caton did a great job of hosting

the meeting, and Appalachian State University was far more interesting than I realized!

This was followed immediately by the SAS meeting in Big Bear, California. I usually attend the SAS meetings because it is a good venue to meet up with the west coast amateurs and vendors. For example, I needed to talk to Bob Denny about some ACP features, and Planewave had asked to meet with me about some new telescopes that they are planning. Bill Goff and Jim Cottle had AAVSONet ideas that they wanted to discuss. Like Boone, the SAS meeting had fewer attendees than normal, but the quality of the presentations did not suffer. Emily Lakdawalla presented a great opening talk, describing how NOT to give a PowerPoint presentation. Just about every presenter after her rewrote their presentation to eliminate some of the common mistakes! Our development director, Mike Simonsen, was the banquet speaker, and gave an entertaining view of whether astronomy is a hobby or obsession. Two

workshops on DSLR photometry and lightning protection led off the meeting. We will hold a joint SAS/AAVSO meeting in 2014, and I highly recommend coming to that meeting to listen to talks covering a wide variety of topics.

I just completed a southwestern U.S. trip to work on various AAVSONet telescopes, as well as to talk to several people along the way. My first stop, in fact, was to deliver in person the Director's Award to John Gross. John has been a long-time friend and volunteer for the AAVSO, and the award was justly deserved.



John Gross (GQJ) received the AAVSO Director's Award this spring

We have two Margaret Mayall Assistants this summer: Shouvik Bhattacharya (a frequent chat room participant), and Anisha Sharma (who was a Maria Mitchell REU student last year). Shouvik is from India, and will be a graduate student at Creighton in the fall. Anisha is from Nepal, and just graduated from Bennington College in Vermont. They are helping me with APASS and AAVSONet processing, and will be involved in several observing projects at HQ.

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SINCE 1911...

The AAVSO is an international non-profit organization of variable star observers whose mission is: to observe and analyze variable stars; to collect and archive observations for worldwide access; and to forge strong collaborations and mentoring between amateurs and professionals that promote both scientific research and education on variable sources.

PRESIDENT'S MESSAGE

MARIO MOTTA, M.D. (MMX)



To all those who came to the AAVSO spring meeting at Appalachian State University (ASU) in Boone, North Carolina, thank you for being part of an event-filled weekend with interesting talks and a tour of the wonderful facilities at the University.

I wish to thank our hosts for providing us the wonderful venue and support. For those who missed the meeting, start planning now for the annual meeting in Massachusetts being held October 11–12, 2013, during the peak of the fall foliage season.

Although ASU has a research facility at Dark Sky Observatory which we also visited, what struck me as most impressive was the on-campus facility of a large slide-off roof area that houses 20 Celestron C11 computer-guided telescopes whose sole purpose is to teach students hands-on the nuts and bolts of image acquisition and manipulation, observing, and the computer control of these telescopes. Many universities have astronomy courses, and although the astronomical knowledge gained by students may be top notch, what many

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**DIRECTOR'S MESSAGE
CONTINUED...**

Ulisse Munari has returned for about six weeks as a Janet Mattei Fellow, working with me on several APASS papers. He is a great resource for photometric and spectroscopic procedures, working with many Italian amateurs on projects. It is a real pleasure for the entire staff to have him and his wife Emma as guests at Headquarters, and Emma has been helping with membership database projects.

The CCD School is only a couple of weeks away (you can still register, but hurry!). Ron Dantowitz and Nick Weber from the Clay Center Observatory in Brookline will be attending. Ron is upgrading the CCO 25-inch telescope to be a more effective photometric instrument, and will make large fractions of time on that telescope available to the AAVSO. He will also give a tour of CCO to the School attendees.

We started the forum concept for our website about a year ago, replacing the various mail-lists. I think the result has been very effective—we are getting many more participants posting to the forums, and a larger variety of posters. If you haven't subscribed to one of the forums, I highly recommend doing so—there are lots of interesting topics that are being discussed.

We are nearing the end of the massive HST CV project, with only a few more objects to be covered. The AAVSO observers have been highly important for protecting the safety of the COS instrument, as well as monitoring each CV to understand what state the variable is currently in, its recent history, and when the next outburst might take place. Some great spectra have been taken that will take time to study in detail. Several other campaigns are underway—participate in these if you get a chance!

I especially want to thank all of those who have participated in the various surveys undertaken by Kevin Paxson and the Council. The results from these surveys will help enormously in shaping the direction of the AAVSO into the future. It has been great reading the optional comments, as people have obviously spent time and effort in crafting their answers.

This should be a fruitful summer, with progress for many projects. Be sure to attend the fall meeting in Woburn to hear about the latest results! I hope that the next few months will be exciting ones for everybody. Clear skies and have fun! ★

Ed. note: the Spanish language version of Arne's message can be found on page 16.

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astronomy program graduates lack is an actual understanding of how to manipulate a telescope, how to gather data, and actually do the science of image acquisition. Mastering these skills will make them better astronomers, as they will understand the entire process and therefore the limitations of data acquisition and instrumentation. Basically, they will learn what all of you reading this know from trial and error and experience. It also struck me that although the majority of those taking an astronomy course at ASU will not end up being professional astronomers, they will still gather valuable knowledge of how science is done, and they may actually enjoy doing astronomy as an amateur going forward with a firm understanding of how to do the science. In other words, they are the perfect observers we should be recruiting from.

The facility was wonderful, and hopefully more universities will incorporate what is now actually easily-acquired technology. I have always believed astronomy is best learned as a hands-on experience. Most of the general public and

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The *AAVSO Newsletter* is published in January, April, July, and October. Items of general interest to be considered for the *Newsletter* should be sent to eowaagen@aavso.org. Photos in this issue courtesy of C. Beaman, D. Cowall, A. Heck, N. James, A. LaCluyze, K. Paxson, M. Saladyga, I. Simonsen.

Membership in the AAVSO is open to anyone who is interested in variable stars and in contributing to the support of valuable research. Members include professional astronomers, amateur astronomers, researchers, educators, students, and those who love variable star astronomy.

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amateurs who may be interested in doing what the AAVSO observers do regularly do not have such a background. If you find interested amateur astronomers who are ready to advance, you can do a great mentoring service by actually showing potential observers how you make visual, CCD, or computer measurements that become useful in science. It is this hands-on experience—with which you are all very familiar and many are highly experienced—that sometimes intimidates newbie amateur astronomers. There is no substitute for actual hands-on experience to get a new amateur astronomer going past the simple observing stage. What all of you have mastered (or are mastering) is, in actual fact, a rather steep learning curve. So in addition to what many of you do, that is, show many friends and the public the sky, if you see the potential in an amateur for advancement, consider letting him or her observe

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PRESIDENT'S MESSAGE CONTINUED...

you actually collect the data, and reduce those data for true science. You may inspire the next Leslie Pelletier and create a new AAVSO member.

Of late I have noticed an increase in the number of requests by professionals for monitoring of selected stars. This is a great tribute to the reputation of the AAVSO and its members and observers and an indication of the value the professional community places on us. Prestigious researchers using the Hubble Space Telescope frequently ask for monitoring of selected stars so as to carefully select the optimum time to use the scarce and limited resources of HST. These are great projects to get involved with, and possibly to show to non-AAVSO members as examples of the real science they could do and accomplish if they joined. Consider using these requests as actual recruiting tools, for although we have a large and dedicated observing group of members, there are still too many stars in the sky and not enough clear nights for us to accomplish it all.

Finally, due to the stock market crash a few years ago, our finances have not rebounded to where we would like and need. In fact, combined with the sequestration and the general drying up of grant money, the AAVSO is in a tight financial pinch for the foreseeable near future. Only 7% of our operating budget comes from our dues. The rest is from grants, funded research projects, and our endowment. We cannot destroy our endowment by pulling out excess funds, so there will be a period of penny-pinching going on. I am heartened to see so many members who have renewed by paying at the higher sustaining member rate. If it is within your means to do so, please consider doing just that at your next renewal period. And if you can, consider an outright gift or bequest to the AAVSO to continue our legacy. Thank you to all our members for your kindness, generosity, and hard work that make the AAVSO such a respected organization in the scientific community. ★

Ed. note: the Spanish language version of Mario's message can be found on page 16.

OBSERVING PROGRAMS SURVEY

The AAVSO Council is seeking Member/Observer input on the AAVSO's Observing Sections and Programs. We would appreciate your feedback! Survey results will be discussed at the next AAVSO Council meeting and will be used to improve the AAVSO Observing Sections and Programs in the future.

The survey can be found at:

<https://www.surveymonkey.com/s/AAVSOObsProgSurvey> (All questions are optional.)

Please take a moment to complete the survey before July 31, 2013. Thank you for your participation!

UPCOMING MEETINGS

The 102nd Annual Meeting of the AAVSO will be held in metro-Boston at the Hilton Hotel in Woburn, Massachusetts. The meeting will take place on October 11–12, 2013, and will be preceded by a one-day meeting of the AAVSO Council. Special topics will include the role of amateur astronomers in the age of large-scale surveys. Additional special sessions are in the works and will be announced once confirmed. The 2013 annual meeting will take place a bit earlier than past Boston-area meetings, bringing the event even closer to prime New England foliage season. This may be the year to stay an extra day and see the beautiful fall colors!

The 103rd Spring Meeting of the AAVSO will be held jointly with the Society for Astronomical Sciences (SAS). The date and venue will be announced later.

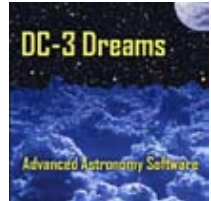
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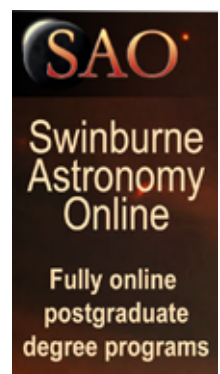
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SPRING MEETING IN BOONE, NORTH CAROLINA

PAT ROCHFORD (RTP), FAIRHOPE, ALABAMA

I joined the AAVSO in the fall of last year after coming into possession of a photoelectric photometer. Correspondence with the staff had, from the beginning, always been very informative and pleasant. But I'm someone who likes to speak to others in real time—face to face, not face to Facebook. When I read the announcement that a spring meeting would be held in Boone, I jumped at the opportunity to meet real people.

The flight to Charlotte was mostly uneventful, except for a sudden thousand or so foot drop between Mobile and Atlanta. (I'm still a bit ashamed that, in thinking my life was about to end, I was most upset over the fact that I would never know how *Game of Thrones* would end.) Not realizing the size of Charlotte, I was somewhat taken aback at the size of its airport ... and utterly astonished at the size of the baggage claim area, which appeared to extend into the next county. Somehow, I was supposed to find an individual in this crowd of a thousand to drive me the two-and-a-half hours to Boone. Not to worry though, as Rebecca Turner had things well in hand and I was soon being chauffeured to my final destination by ASU's Lee Hawkins, who entertained me with all manner of astro-tales.

I don't travel much, being just a simple hillbilly from Alabama, but that certainly was a very nice, reasonably priced hotel. (I had no idea there was such thing as a five-story Holiday Inn Express!) A dinner for first-time attendees was held Thursday night at a restaurant across from the hotel. This was a nice gesture, as it gave me a chance to meet and get to know Arne Henden, Rebecca, and Mike Simonsen. Here was a captive audience to answer all the nagging questions I'd been accumulating for the past several months—and answer they did. I couldn't have asked for a better way to start my first AAVSO meeting. (The one question that remained unanswered that evening, mostly because I didn't actually ask it, was—What would Mike do if he was ever forced to choose between his wife and his Camaro?)



Kevin Paxson giving his talk

to actually see how the data collected by means of large and small instruments are developed into working theories. And I have to tell you, at least in this pea-brain of mine, after listening to these speakers the distinction between professional and amateur seems to be slightly blurred. Throughout the two days of talks, I continually alternated between being incredibly impressed and just plain feeling stupid.

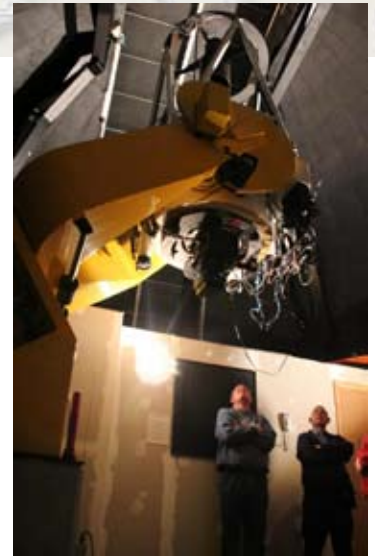
The paper sessions began Friday morning, covering a slew of variable star topics. Having grown up in an area best described as a cultural and scientific black hole, listening to these talks was like waking up on Christmas morning and opening one present after another. Not too many professional astronomers ever make it down to the swamp, so it was extremely interesting

The tour of Appalachian State University's GOTO Lab with its 16 large, fork-mounted Celestrons was absolutely mind boggling. If there is such a thing as an afterlife, then I imagine this would be heaven for an amateur astronomer. (Hell of course, would be the same exact set-up, except it would be perpetually cloudy.)

The banquet on Saturday night was held at ASU's Dark Sky Observatory. Unfortunately, the weather did not cooperate in the least. As the university's large bus took us farther into the mountains, the fog became ever thicker on that very narrow, very winding road. (I know it must appear that I'm continually obsessing over my final moment on Earth, but I couldn't help thinking about the possibility of an out-of-control, overloaded log truck barreling toward us at breakneck speed. And not knowing how *Game of Thrones* would end.) We made it to the observatory safely, and although we were not able to see any celestial objects in an eyepiece or a camera, we were certainly treated to a very nice barbeque dinner, dessert, and wonderful conversation. There was even food for those of us who are not carnivorous. Oh, and let me not forget the young gentleman from the university's micro-brewery who insisted that I try all of the recipes he brought with him.

As I mentioned, the sky was unforgiving, but we were all given an intimate tour of the observatory by Dan Caton and Lee. There were several instruments hiding under their respective domes, but the crown jewel was their 32-inch, equipped with both a large CCD camera and a spectrograph. Very impressive. So impressive in fact, that I couldn't wait to get home and kick my 14-inch LX200. The ride back to Boone was scarier yet since it was now foggy, rainy, AND PITCH BLACK. (No, I'm not going to mention where my thoughts went at this time.)

The next morning I said my good-byes and was once again in the company of Lee and the physics department van for my return trip to Charlotte. It took only moments after arriving at the airport to learn of the severe thunder storms and lightning that awaited my plane between there and Atlanta. I spent the next couple of hours in the terminal trying to locate a phone number for someone at HBO. ★



At Appalachian State University's Dark Sky Observatory
Photos by Carol Beaman



The spring meeting attendees inspect ASU's battery of Celestrons and other equipment

THE PARSIMONIOUS NOVICE CCD PHOTOMETRIST

DAVE COWALL (CWD), NANTICOKE, MARYLAND

Going to the Spring meeting was like coming home again. Although I have been an AAVSO member for 20 years as well as a visual observer, I have made no observations for the past several years and have not attended a meeting for over 10 years. Work and life had just got in the way.

I retired in January, and getting re-involved with AAVSO and learning CCD Photometry was part of my retirement plan. Furthermore, I wanted to do it “on the cheap!” I knew there would be many challenges, but that would be part of the fun. An opportunity presented itself when a casual acquaintance wanted to sell his telescope, equipment, pier, and roll-off roof shed for a song. The gear had sat unused in the shed for over 10 years! I was only interested in the shed, pier, and mount. I sold the rest of his gear and had the GEM mount restored to like-new condition. I then purchased a 10-cm $f/5.4$ APO refractor and a modest CCD camera with photometric filter wheel. Add a few accessories including a used laptop computer, and I now had the gear I needed. The “cheap” part of my plan was working!

John Blackwell was assigned as my mentor. He has been an excellent and patient sounding board along my journey. He was enthusiastic about my idea to use a small refractor for imaging. I took the CHOICE CCD Photometry part 1 course on-line and plan to take part 2 in the fall. I have created all necessary calibration frames, and am becoming comfortable with the equipment and software, achieving focus on some random star fields. My first attempt at imaging a variable and reducing the data awaits better weather. I will have John review it before submission to AAVSO.



Dave Cowall's observatory

The Spring Meeting was a great opportunity for me in many ways. It was, of course, also fun. The scientific papers helped me to understand the utility of the observations to the professional astronomy community. It was also an opportunity to meet and network with other members and the staff. Some I remember from many years ago. Others like Bill Goff I met for the first time. He and I had dinner together one evening, and he was full of suggestions for me. He recommended some books to read as well as data reduction methods. He also suggested that once I become comfortable with imaging, that I consider participating in some of the campaigns. He particularly recommended that I consider the T Tauri project since it would be well-suited to my small-aperture instrument.

The adventure continues. As Ptolemy once said, “I know that I am mortal by nature, and ephemeral, but when I trace at my pleasure the windings to and fro of the heavenly bodies I no longer touch the earth with my feet: I stand in the presence of Zeus himself and take my fill of ambrosia, food of the gods.” ★



The spring meeting attendees

HORACEFEST: A CELEBRATION OF HORACE SMITH'S CAREER

MIKE SIMONSEN (SXXN), AAVSO HEADQUARTERS

I met Horace Smith (SHA) a few years ago when I attended a variable star conference hosted by him and the Department of Physics and Astronomy at Michigan State University (MSU). Horace is one of the world's experts on the nature of the RR Lyrae and Cepheid variables, and has been an AAVSO member for over forty years. I was honored and excited to attend his "unofficial retirement party," "40 Years of Variable Stars: A Celebration of Contributions by Horace A. Smith" (http://vger.pa.msu.edu/smith_website/program.html).

"Horacefest," as it became known among the roughly 40 attendees, was held at MSU the last two days of May 2013. The MSU campus is landscaped with specimen plants and display gardens and spring is an excellent time to visit. Many of the shrubs and perennials were in full bloom.

Indoors, things were popping, too. Ten presentations were given on Thursday and eight on Friday, in addition to posters (http://vger.pa.msu.edu/smith_website/smith_conference_program.pdf). The scientific sessions started with Horace giving a talk entitled "Period Changes of Mira Variables, Cepheids, and RR Lyrae Stars." Horace was his usual personable self. He began by welcoming and thanking everyone and then quipped, "due to the nature of this conference, perhaps I will be forgiven if I go over my time limit some," at which everyone hooted and laughed.

As if to highlight the AAVSO's role in variable star research, the next two talks were given by Doug Welch ("A Study of RR1 Lightcurve Modulation in OGLE III Bulge Time-series") and AAVSO Director Arne Henden ("Analysis of Archival and Synoptic Observations of Field RR Lyr Stars").

One of the highlights of the first day was Karen Kinemuchi's talk, "Horace A. Smith's Academic Genealogy." It was interesting to trace Horace's roots in astronomical research back to some notable astronomers:

Horace A. Smith, Dennis Butler (Horace's Ph.D. advisor), Robert Kraft (Butler's Ph.D. advisor), George Herbig (Kraft's thesis advisor), Harold Weaver (Herbig's thesis advisor), Robert J. Trumpler (Weaver's thesis advisor), Leopold Ambronn (Trumpler's thesis advisor).



AAVSO members in attendance included Neil Simmons, Marv Baldwin, and Gerry Samolyk



Horace Smith at Horacefest. Who needs a laser pointer when you have a big stick? Photos by Aaron LaCluyze

Thursday night the scheduled entertainment, "Bad Movie Night," was held in the Abrams Planetarium. A bad science fiction movie ("The Lost Skeleton of Cadavra," which is really a parody from 2001 of bad 1950s sci-fi movies) was projected on the dome in honor of Horace's love for the genre.

Friday's session began with results of RR Lyrae studies from the Kepler mission given by Katrien Kolenberg and Robert Stellingwerf. Poster presentations were done just before lunch. Marcio Katelan rounded out the conference with "Stellar Variability in the VVV Survey: An Overview and First Results."

Another fun part of the conference was a trivia quiz given by Horace to the attendees. There were ten questions featuring odd, obscure, and fun facts about variable star astronomers. The prize was a book about William and Caroline Herschel. The winner, Katrien Kolenberg, was announced at the end of the day.

Friday night dinner was held at the best pizza place in East Lansing, Pizza House. Amidst the food, drink, and laughter, Horace was presented with a memento of the occasion signed by all the conference attendees.

Horacefest was well organized, informative, and fun for everyone. I'm so happy I was able to attend. ★



Memento

HERB LUFT'S SOLAR NOTEBOOKS: NEW SCIENCE FROM THE AAVSO ARCHIVES

MATTHEW TEMPLETON (TMT), AAVSO SCIENCE DIRECTOR

During two weeks last May, the AAVSO Solar section and AAVSO headquarters hosted special guest Leif Svalgaard of Stanford University/Solar Dynamics Observatory. Leif was here to digitize sunspot records from the original notebooks of AAVSO member Herbert A. Luft (1908–1988) that are housed in the AAVSO's Thomas R. and Anna Fay Williams Archives.

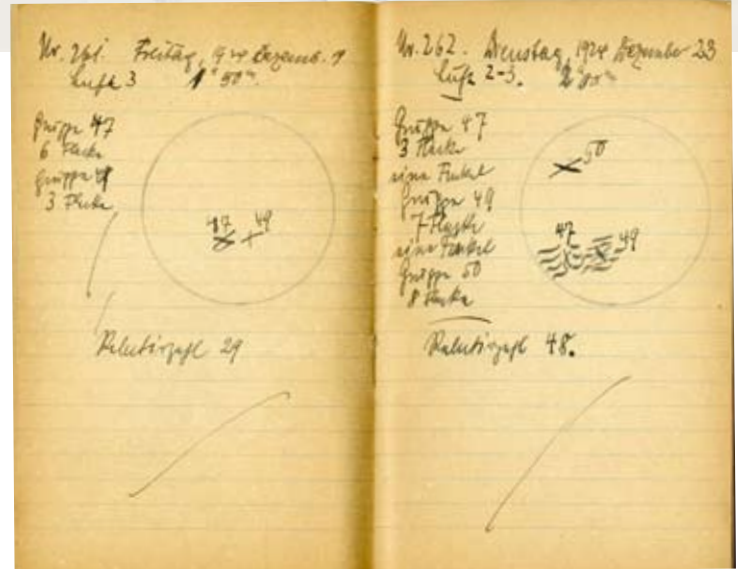


Herbert A. Luft in 1966 at the AAVSO's Annual Meeting in Nantucket

A year ago, our Solar section leader Rodney Howe told us (see *AAVSO Newsletter* 53) about an international workshop series that both he and fellow solar observer Susan Oatney (OATS) were attending: the SSN (sunspot number) workshop, established by Ed Cliver (Air Force Research Laboratory), Frédéric Clette (Royal Observatory of Belgium), and Leif Svalgaard. The group's goal is to reconcile the numerous historical records of sunspot counts. As it turns out, records exist for sunspot counts going back to the 17th century at least, and those records can, in principle, provide us with a record of solar activity for several centuries. However, some parts of that record were likely corrupted over time by changes in observing procedure and the use of different averaging and weighting factors. This is problematic, since it is difficult to understand long-term changes in the Sun without having a historical record that is self-consistent throughout. The scientific questions surrounding the sunspot record extend well beyond the topic of the Sun. (For some insight to this topic, read former Solar Division Chair Carl Feehrer's article "Dances With Wolves: A Short History of Sunspot Indices" at <http://www.aavso.org/dances-wolfs-short-history-sunspot-indices>.)



Visiting astronomer Leif Svalgaard (center) with AAVSO Archivist Mike Saladyga and Science Director Matt Templeton



Two pages from one of the 75 solar observing notebooks by Herb Luft. The entries shown here were made in 1924 when he was living in Breslau, Germany.

Rodney and Susan attended the third SSN workshop in January and wrote about it in *AAVSO Newsletter* 56. The goal of the group working on the problem now is to understand all of the changes in counting methodologies over the years, and to put the entire historical record on a single, self-consistent reference frame. Part of what they need to do that are raw observations of sunspot counts, and those have proven difficult to come by in many cases. This is where the AAVSO and the AAVSO Archives come in.

Leif visited AAVSO Headquarters May 6-16 to digitize the original raw observations that were made by Herb Luft. Luft observed the Sun for nearly 70 years, starting as a young man in pre-war Germany, then on to South America and finally to the United States where he and his wife Hilde eventually settled. Luft's original notebooks and other papers came to the AAVSO after his death, and they are now archived at AAVSO headquarters where they and other similar materials can be used by researchers. Even the AAVSO Solar program does not have archives of raw sunspot counts for any of our observers prior to the year 2000, so Luft's notebooks are, as Leif says, "golden"!

Leif Svalgaard's project is another neat example of the history and science that's coming from the Archives. We were happy to have Leif here, and we're looking forward to seeing Herb Luft's data being put to good use once again. We'll share more results about this ongoing project as we hear more. ★

MEET THE STAFF: MICHAEL SALADYGA

SARA BECK (BSJ), AAVSO HEADQUARTERS

Since I was the last AAVSO staff member to be interviewed for this column (*AAVSO Newsletter No. 56*, April 2013), it is now my turn to choose the next victim! Without much hesitation, I decided that it was high time for Mike Saladyga to introduce himself to the world. Despite his being the second-most senior employee at the AAVSO (after Elizabeth Waagen), I doubt that many people outside of HQ know much about him. Mike's many and varied duties include processing large data sets, production of *JAAVSO*, the *Newsletter*, and the *Annual Report*, and maintaining the archives and library. These are not high-profile or glamorous tasks. I know he would much prefer to get on with his work—quietly and efficiently—rather than answer questions about himself, but I will give it a try anyway....

Sara: I know that you had a pretty interesting and convoluted career path that eventually led you to the AAVSO. Would you share a bit of that with the readers?

Mike: I started out as far from astronomy as could be, under the industrial skies of Buffalo, New York—a rust belt city in high gear during the 1950s and 1960s. By the time I finished high school I had no interest in going to college. I was accepted to a marine biology program on Long Island, but did not attend. The romance of the sea, on the other hand, always had an attraction, and I decided to enlist in the Coast Guard: the idea of being part of a seagoing rescue service appealed to me and seemed like something worth trying. The romantic aspects were not immediately forthcoming: I was sent to learn about electronics and electro-mechanical systems, and how to hunt for submarines! Strangely, and to my surprise, I did quite well with the weekly quizzes in circuit theory, and so on.

Soon enough I found myself on a cutter out of Boston, doing month-long patrols in the North Atlantic, either between Labrador and Greenland or 800 miles southeast of there where the weather and seas can be astonishingly violent. There, I helped make scientific observations! We regularly worked with on-board Weather Bureau observers to collect data on winds aloft; I also collected nightly seawater samples using Nansen bottles (with reversing thermometers) which I would string from a huge spool of cable. These samples, taken at 25-, 50-, or 100-meter intervals down to a depth of about one mile or more, provided salinity and temperature data. I also made and recorded daily bathythermograph readings at shallower depths. This was all quite exciting and fascinating to my 19 year-old self. I had little idea of how this data would be used. But (fast forward to today) several years ago I read a book on what is called “the great ocean current conveyor belt thermohaline circulation anomaly”—an oceanographic hypothesis now used in understanding global warming—and I was surprised to see that some of the data being used are from the observations that were regularly collected by the North Atlantic cutters! It is gratifying, in its small way, to know this. My brief period of contributions to science came to an end when I was transferred to a lifeboat station in Rhode Island. There were enough hair-raising moments going out in bad weather, and many routine calls for assistance, but after four years of ships and boats I was ready to try something new.

Sara: What about your education?

Mike: With Melville, I can say that “The whale ship was my Harvard and my Yale”—I and a couple of my shipmates read and discussed lots of books during that time to a point where I let one of them talk me into going to college



Mike Saladyga with his Newfoundland dog, Maranda (with an “a”)

along with him. Thus began the (somewhat lengthy) academic phase of my life during which I studied literature at Temple University, Buffalo State, and Middlebury College (Mid's summer programs in Vermont and at Lincoln College, Oxford University, ending with an M.A.). At that point (the early 1980s), I gained some experience teaching literature and writing at one college in New Hampshire, and tutored math, programming, and writing at another. It was great being paid to do that! Eventually I attended Brandeis University where I earned my Ph.D. in English and American literature in 1995.

Sara: How did you get involved with astronomy?

Mike: In 1977 I happened to visit a friend in New Haven who was completing his Ph.D. He was not a Yale student, so he talked me into getting a job at Yale so that I would have library privileges which would greatly aid him with his research. So, I worked as a cataloging assistant in Yale's Sterling Library. One day, while perusing the school's employment newsletter, a job opening for a research assistant/programmer in the astronomy department caught my eye, and I thought “sounds interesting, why not try for it?” At the job interview I sat before Professor Bill van Altena (then the department head), and George Chiu (the department computer expert); both of these men were quite serious and asked me lots of questions which I struggled to answer. A third person seated before me was an elderly woman who said very little, but seemed to be smiling and beaming at me the whole time. I realized during the interview that I'd be working for her if I got the job; she was Dr. Dorrit Hoffleit. Apparently, she had already made up her mind about me, or anyway found me to be just the kind of person she was looking for, despite what I imagine were the objections of van Altena and Chiu. My job was to help her compile information for her revision of the *Bright Star Catalogue* (and, a few years later, for the *Supplement to the BSC*).

Sara: What was it like working for Dorrit?

Mike: My first impression of Dorrit—which proved to be true—was that she was thoroughly immersed in lots of work. But Dorrit was not all seriousness—once a week she would join the others of the department and march off about a quarter mile up the street to a popular pizza place for lunch. Dorrit certainly always enjoyed being part of the crowd.

My own work was tedious at times, but I felt fortunate to be part of something meaningful. Dorrit would briefly outline a problem for me—data that needed to be collected, or research to be done—make some guesses as to which publications or computer tapes might have the information, and then set me loose with only a smile and a “thanks!” She left it to me to figure out how to do it, whether it be researching in the astronomy library, or writing a FORTRAN program to get what I needed off the tapes. Thankfully, Dorrit never would pester me but would wait patiently for the results. At any rate, she always had plenty of other things to do while she waited.

MEET THE STAFF CONTINUED...

Gradually, but quite early on, I came to appreciate who Dorrit was, both in her professional and personal life. There would rarely be a day when a phone call or a visit from someone would not cause her to take a break from her work and tell me a story about the department's past, her professional past, or even her family life. I recognize many of these stories in her autobiography. She also spoke proudly of her Maria Mitchell Observatory summer students. By the way, you, Sara, were one of those MMO summer students at that time. Little did we know that you and I would eventually meet as friends and co-workers at the AAVSO some fifteen years later!

Sara: Was it hard finding time to complete your studies while working?

Mike: Finding time to complete my studies never seemed to be a problem. The situation was convenient for both of us. Dorrit would be off to Nantucket to direct her MMO students for about six weeks for the first part of the summer—leaving me with a pile of tasks she hoped I could get done while she was gone. Then, while she was still away, it would be my turn to take six weeks off in the middle of the summer to attend my M.A. classes either in Vermont or Oxford. Meanwhile, while I was gone, Dorrit would have returned, and I would rejoin her a few weeks later.

Sara: How did you get involved with the AAVSO?

Mike: Dorrit would occasionally mention the AAVSO and what its members did, usually when she was about to leave for its annual meeting. After about five years at Yale, I opted to return to New Hampshire to try to find a job teaching English. I said good bye to Dorrit, and really believed that was the end of astronomy for me. As I mentioned, I did find a couple of teaching jobs after I left Dorrit and was delighted with that, but the times were tough and permanent jobs were scarce. Dorrit and van Altena both wanted me to return to New Haven to help them with other projects, but Dorrit also encouraged me to look up AAVSO Director Janet Mattei—which I did, because by then I liked the idea of returning to Boston, and also liked having a chance to build upon what I had learned while working for Dorrit. After a friendly interview with Janet in late 1984, I began working at the AAVSO in 1985. I am sure that a strong recommendation from Dorrit had a lot to do with me getting the job.

The question about studies also pertains to my time at the AAVSO. Like Dorrit, Janet was accommodating when the time came for me to complete my coursework and dissertation for the Ph.D. at Brandeis. Being a Brandeis alumna herself, she even attended my hooding ceremony!

Sara: As with most AAVSO staff members, you wear a lot of hats and have been involved in a lot of different projects over the years. What have you enjoyed doing the most?

Mike: I thoroughly enjoyed putting the AAVSO's long-neglected archives in order and cataloging it as well as identifying and acquiring an understanding of all of the important items, and I just as much thoroughly enjoyed co-researching and co-authoring the AAVSO's centennial history with Tom Williams. I am immensely proud of both achievements, but the latter could never have been done as well and documented so fully without the former being in place. The archive project began in 2000 with the support of Tom and Anna Fay Williams—with the intention of the archives being the foundation for the writing of the AAVSO history. Janet appreciated the value of establishing and maintaining the association's archives, and must have felt that the project was a good fit for me. I believe that the end-product of the AAVSO history book shows that she was right on both counts! I wish that Dorrit and Janet could be here to see the book.

Sara: What do you do for fun or relaxation outside of work?

Mike: In Boston, I enjoy helping to restore the 1930 tugboat *Luna*, the first commercial diesel-electric tug in the U.S. This project (like an earlier lightship project I was involved in) lets me get back to the harbor—and sometimes I actually get to ride other tugs to Gloucester or to Maine as the need arises—without having to suffer most of the indignities of a life at sea.

Other interests include brewing and drinking my own beer, reading poetry and stories, and sometimes trying to do some writing as well. But my favorite activity is going up to western Maine with my wife, Ann. Just at the foothills of the White Mountains it is nice and rural, and we simply enjoy nature, the animals and birds, and the quiet that is there.

Sara: Is there anything else you would like to share with our readers?

Mike: As other staff have said in these interviews, the AAVSO is a very special group. I am proud to be connected with such a great organization—an “association” in the best sense of the word—which I hope will survive as a true association of good people for another 100 years. Its members and staff are all great people to know, and we should all be proud of the AAVSO's history—we are a part of it, after all!★



Mike aboard Luna, enroute to Gloucester, being towed by tug Cynthia Nicole

ROCKY MOUNTAIN STAR STARE 2013

MIKE SIMONSEN (SXXN), AAVSO HEADQUARTERS

At 7,600 feet above sea level and with the Rocky Mountains as a backdrop, the Rocky Mountain Star Stare provides a unique and beautiful setting for a star party. Held in June or early July, RMSS is one of this nation's premier star parties.

For over two decades, astronomers from across the U.S. and around the world have been gathering each summer in the mountains west of Colorado Springs. Sponsored by the Colorado Springs Astronomical Society, average attendance is usually about 300 astronomers. Incredible star gazing by night is supplemented by day with workshops, children's activities, door prizes, catered meals, and some amazing sightseeing opportunities within a few hours' drive.

It is really dark at RMSS. There is nothing nearby...nothing. The Star Stare is held near the thriving metropolis of Gardner, Colorado. Gardner (population < 1,000) has a post office, church, food store, café, and town dump. If you blink you will miss it as you drive through.



The funky food store in Gardner, Colorado

This year I was invited to give two talks at RMSS. After a two-day drive to the mountains from Michigan I was a little worried when the activity tent only held a dozen or so people on Thursday evening at the "meet and greet" event before my talk. Then the looming clouds let loose with thunder and lightning and a torrent of rain. I was more than a little nervous standing in a tent in the middle of a field with lightning strikes nearby after attending the lightning mitigation workshop at the SAS Symposium two weeks prior.

But as quickly as the storm advanced on us, it retreated into the mountains to the east and the sky cleared. By the time the announcements and my introduction were done the tent was filled to standing-room-only capacity.

I introduced variable stars to the crowd and explained why they were important in the landscape of astronomy and astrophysics and then talked about the AAVSO and the possibilities for them to contribute to science as citizen scientist observers.

The question and answer session went quite long, and I could tell they were interested and excited about what they had heard. They had a lot of very good questions. I was presented with a bottle of red wine as thanks for the talk and given the celebrity treatment by the staff and organizers throughout the event. Unfortunately, Thursday night was mostly cloudy and very little, if any, observing was done.

Friday night's talks began with Dr. Michael Bica presenting "The Future of Mars Research," a very interesting review of past missions and the possible



Nestled in the Rocky Mountains, Rocky Mountain Star Stare 2013

Photos by Irene Simonsen

directions Mars exploration and research are heading. About halfway through Dr. Bica's talk the skies opened up again, and the talk was suspended while dozens of attendees scrambled back to their campsites to close windows and cover telescopes. After a 15-minute or so delay, he resumed his talk, which was very well received by the audience.

My talk was one I've given before at banquets, including this year's SAS Symposium. It's entitled "Astronomy: Hobby or Obsession?" It is essentially a humorous look at the great lengths and expense amateurs will go to in pursuit of their astronomical hobby, or obsession. I have several personal anecdotes to highlight points and my own version of the H-R diagram explaining the evolution of the average stargazer.

This version was supplemented by heckling from my wife who had comments about many of the points I made regarding the expense and amount of time devoted to astronomy. It's hard to say which one of us got the most laughs, but all had a good time. It meant a lot to me to get an ovation from a group of tired, wet amateur astronomers, in a tent in the middle of nowhere, facing yet another cloudy night.

Our original plan had been to bring a 12-inch LX200 and camping gear to RMSS, but after seeing the weather forecast go from questionable to poor we decided at the last minute to just take the Camaro and our suitcases and use the time away from RMSS to explore the mountains and sites near Colorado Springs. This turned out to be a good plan, as Thursday and Friday were both clouded out.

The boards on the bridge deck make unnerving popping and moaning sounds as you traverse the Royal Gorge Bridge



We were able to see a lot of incredible and beautiful sites in Colorado, including Bishop Castle and the Rocky Mountains leading from Gardner to Leadville, the highest incorporated city in North America. We also spent a day at the Royal Gorge, driving the Camaro over the highest suspension bridge in America, and our last day in Colorado featured exploring the Garden of the Gods in Colorado Springs and driving to the top of Pike's Peak.

I look forward to returning to RMSS one day with a telescope and camping gear to take advantage of the dark skies and transparency they were able to finally enjoy Saturday night. ★

FACING THE CHALLENGES AHEAD

MIKE SIMONSEN (SXN), MEMBERSHIP DIRECTOR AND DEVELOPMENT OFFICER

At the spring meeting this May in Boone, North Carolina, I gave a development report at the membership meeting, explaining some of the financial challenges we face as an organization and some of the steps we are taking to meet those challenges. For those of you who missed the meeting and didn't attend remotely, here is a summary.

Sources of Income First, we need to look at the income streams the AAVSO has. What are the potential sources for income we use to operate the AAVSO annually? One source is grants from government and private foundations.

Most of the income we use to pay salaries and run the organization comes from interest and dividends from our endowments. The council strives to keep these withdrawals at less than 5% annually to assure the long-term health of the endowments. Withdrawals are based on a 5-year running average of investment value. This amount is largely out of our control and fluctuates with the economy and stock market.



The total amount of allowed withdrawal from the endowment now includes the recent crash in the stock market, so there is less money available to address the budget needs of the organization.

Government grants (NASA, NSF) These have a low percentage of success and are time-consuming to submit and administer when awarded. There is the potential for large amounts, but they require large amounts of staff time and work before, during, and after they are awarded. Money from government sources will become harder and harder to obtain in the current and near future financial and political climate.

Private Foundation grants Very few foundations fund science organizations. Most foundation science/astronomy funding goes to universities and observatories. We are not a large research institute or university, so competition is fierce. The other large grants we might be eligible for are given for educational projects. We have a NSF grant pending for our CHOICE program, but there is no guarantee we will get it.

Other sources of income Contrary to popular belief, non-profits generally receive 80% of donations from individuals, and only 20% from grants and corporate support.

Individual donors This has been a main target of AAVSO development plans and is slowly on the rise.

Bequests This requires long-term planning and effort. While this is going on right now, any bequests we receive in the next five years are mostly from the efforts of Janet Mattei.

Dues payments Although less than 10% of the total budget, this stream is steady and we can set the rates. If we can increase the number of members, and/or raise the dues, we can positively impact this contribution on operating expenses.

Payment for services We are exploring more ideas in this area. It is a continuous debate as to what services or tools we should hide behind a member pay-wall and which should be available free of charge to the public.



2014 and Beyond One challenge we face is that our current grant funding dries up soon. This along with other factors means we face our own fiscal cliff as early as 2014.

Citizen Sky is complete as of 2013, 2 Eyes 3D runs out in 2014, and the Chandra grant in 2015. Currently-submitted grant proposals have a low probability of success under the new NSF and NASA non-budgets. The annual budget shortfall for 2014 may be as much as \$100,000.

Membership and Dues Restructuring Councilor Kevin Paxson and I submitted a proposal to Council calling for a raise in dues and a restructuring of the classes and benefits of membership. By adopting these measures we hope to:

- Expand the membership base by lowering financial barriers and thereby increasing membership numbers in poor and developing countries.
- Increase revenues by raising dues for the members that can afford them.
- Have the members who are users of expensive, high-maintenance tools and services pay for a share of their maintenance and upkeep.
- Add value to AAVSO membership by making more of the tools, products, and services available (or available at reduced rates) to members only.

Part of the inspiration for this membership restructuring was the desire to add a new class of membership at a reduced rate for people in poor or developing countries. We realized we have an untapped source of support from people who follow our Facebook and Twitter pages but are unable to afford membership at the current rates. Over half the people who follow us on Facebook would be eligible for this reduced rate.

Number of Facebook Followers of the AAVSO by Country (Asterisks indicate countries that would be eligible for the reduced rate)

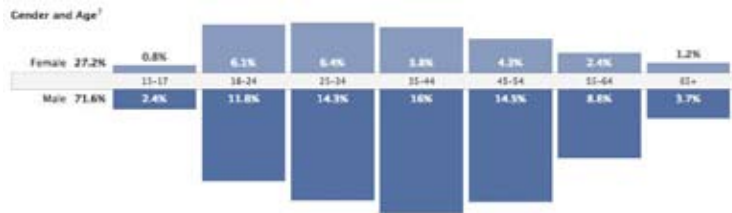
1,793	United States	122	Canada	79	France
329	India*	114	Iran*	70	Germany
200	Italy	108	Spain	56	Greece
180	United Kingdom	99	Mexico	56	Philippines*
155	Brazil*	92	Indonesia*	51	Portugal
142	Argentina*	91	Australia	49	Colombia*
138	Turkey*	80	Taiwan*		

CONTINUED ON NEXT PAGE

CHALLENGES AHEAD CONTINUED...

We also hope to open membership to a more diverse group. The demographics of our Facebook following has a much higher percentage of female and younger participants.

Facebook Followers By Age and Gender (Revised April 20, 2013)



Social Media For the last four years our social media strategy has developed independently, in isolation. We knew we had to have a Facebook page and Twitter account or be left behind, but it was not clear how we could leverage our social media efforts to gain new members, new supporters, more donations, good publicity, or as a marketing tool.

It has also become clear, as this plan has matured, that our social media strategy should be an integral part of our *overall communications strategy*. This includes our website, *Journal*, *Newsletter*, *Annual Report*, email communications, blogs, Facebook, Twitter, Google, LinkedIn, YouTube, Pinterest, and all other digital communication channels with the public.

Councilor Jim Bedient and I submitted a report to Council outlining our rationale and goals for an overarching social media and communications plan.

We suggested a management plan that will coordinate the timely publication of our *Journal*, *Newsletter*, and *Annual Report* with our membership renewal and new membership drives, annual and year-end giving campaigns, as well as all our email communications, Facebook, Twitter, and Google+ feeds.

The goals of the plan are to:

- To contribute to the greater good by educating the public.
- To increase membership.
- To attract a younger and more diverse audience.
- To increase donations and support.
- To raise public awareness of the opportunities and excitement of citizen science.
- To improve our perception and standing in the professional community.
- To increase our influence and reputation in the amateur community.

How Can You Help?

Finally, there are things that you, the members and observers, can do to help us meet the challenges and demands of the next few years.

Become a member If you are not already a member, please become one!

Pay your dues This is as simple as it can be. We try to make it easy to do electronically. Be responsible and remember to pay your dues each year, please.

Pay at the "sustaining dues" rate If you can afford to do so, please pay at the sustaining rate. Half the money you give will be considered a tax-deductible donation.

Make a cash donation when you renew your membership Consider making a significant tax-deductible donation when you renew your membership.

Make an annual campaign donation Something new we will be starting is an annual campaign drive. Please be generous when we ask you to make a donation to this annual campaign.

Year-end giving gifts The holiday season is typically the time when most non-profits enjoy the most contributions. You get the good feeling of supporting your favorite causes as well as the tax benefits of making a donation.

Purchase everything you can through our Amazon.com link The next time you are about to make an online purchase, ask yourself if you could get the same item through Amazon.com via our Amazon link on the website. It doesn't cost you anything extra to do, but AAVSO gets 5% or more of the purchase price from Amazon as a donation. You get to buy stuff and contribute to the AAVSO. What could be better?

Be an advocate If you are as proud to be a member of the AAVSO as I am, tell your friends, family, and astronomy pals about the good things we do and the fun you have being a member.

Get them to join the AAVSO, even if it is just to support the work we do by paying dues. Who knows, they might eventually get the bug and start observing variables, too.

Together we can face the challenges ahead and make the AAVSO better than ever. It will take some effort on all our part and some generosity and volunteerism on your part, but we can do it. We have been doing it for 100 years, and we can do it even better for the next 100 years. You are the source of the AAVSO's strength and spirit. We are, all of us, the AAVSO. ★

TALKING ABOUT THE AAVSO

ELIZABETH O. WAAGEN (WEO), AAVSO HQ

Events—AAVSO members, observers, and friends have given or will be giving presentations about the AAVSO at the following venues:

March 8, 2013—**Michael Richmond** (RHM, Pittsford, New York) gave a talk entitled “Astronomical Jargon” to a local astronomy group near Rochester, New York.

April 5, 2013—**Michael Richmond** gave a talk entitled “Some tips for photometry of comets” to a local astronomy group near Rochester, New York.

April 13, 2013—**Sara Beck** (BSJ, Topsfield, Massachusetts/Rush, Ireland) gave a talk entitled “Variable Stars: Fun and Science” at “Cosmos,” which was held at the lovely Annaharvey Farm Equestrian Centre near Tullamore, Co. Offaly, Ireland. This three-day event, hosted by the Midlands Astronomy Club, is one of the highlights of the Irish astronomical community events calendar. You can read more about it here: <http://www.tullamoreastronomy.com/pages/cosmos-2013.php>

April 13, 2013—**Sebastian Otero** (OSE, Buenos Aires, Argentina) gave a talk entitled “New variable star types and VSX”—on the new variability types added to VSX and how we try to keep VSX as up to date as possible in all regards to comply with the literature—to attendees at the Star Party Valle Grande (SPVG) in Mendoza, Argentina.

April 20, 2013—**Roger Kolman** (KRS, Glen Ellyn, Illinois) gave a talk entitled “The Mystery of eps Aurigae” at Astronomy Day, Harper College, Palatine, Illinois.

April 28, 2013—**Mike Simonsen** (SXN, Imlay City, Michigan) gave a talk via Skype entitled “Z Cams in the 21st Century” to attendees at EuroVS 2013, The 2nd European Variable Star Observers’ Meeting, held in Helsinki, Finland.

May 8, 2013—**Roger Kolman** gave a talk entitled “The Mystery of eps Aurigae” to the astronomy classes, Harper College, Palatine, Illinois.

May 23, 2013—**Mike Simonsen** spoke on “Astronomy: Hobby or Obsession?” after the banquet at the Society of Astronomical Sciences (SAS) meeting, Big Bear, California.

June 6, 2013—**Mike Simonsen** gave a featured talk (variable stars) on “AAVSO, Variable Stars and You,” at the Rocky Mountain Star Stare, Gardner, Colorado.

June 7, 2013—**Mike Simonsen** gave a featured talk (humor) on “Astronomy: Hobby or Obsession?” at the Rocky Mountain Star Stare, Gardner, Colorado.

July 5, 2013—**Mike Simonsen** will speak on “Citizen Science Opportunities in Astronomy” at the Mensa International Annual Gathering, Ft. Worth, Texas.

When this column was instituted in the July 2011 AAVSO Newsletter, most of the activities of the AAVSO Speakers’ Bureau were not included. Since then, these speakers have continued to be active on behalf of the AAVSO and variable stars, but reports of their activities have not always made it into the newsletter. Below are these omitted events:

Keith Graham (GKA, Manhattan, Illinois)

Keith does a weekly astronomy program in Rocky Mountain National Park, Colorado, each summer. He and another ranger do the main presentation, and Keith runs the telescope and talks with visitors about what they are viewing. The weeks he was active are listed below.

2011: June 23, 30, July 7, 14, 21, 28, August 4, 11
2012: June 21, 28, July 5, 12, 19 26, August 2, 9

Al Holm (Columbia, Maryland)

April 5, 2011—“Variable Stars: Stepping Stones of Understanding the Universe”, Public night, Space Telescope Science Institute, Baltimore, Maryland.

July 22, 2011—“Hubble @ 21: 21 Years of Adventure”, Public lecture sponsored by the Marquette Astronomical Society at Northern Michigan University, Marquette, Michigan.

July 24, 2012—“The Invisible Universe: Black Holes, Dark Matter and Dark Energy”, Iron County Museum, Caspian, Michigan.

Roger Kolman (KRS, Glen Ellyn, Illinois)

May 11, 2011—“Getting Started In Amateur Astronomy”, Astronomy Day, Harper College, Palatine, Illinois.

June 17, 2011—“Variable Stars and the AAVSO”, Northwest Suburban Astronomers, Hoffman Estates, Illinois

April 4, 2012—“Variable Stars and the AAVSO”, Astronomy Day, Harper College

April 4, 2012—“Backyard Astronomy – Getting Started”, Astronomy Day, Harper College

Michael Richmond (RHM, Pittsford, New York) (All these talks were given to local astronomy groups around Rochester, New York.)

January 21, 2011—“Why are all the stars either blowing up, or collapsing into black holes?”

April 22, 2011—“Results from the Kepler mission, two years after launch”

May 13, 2011—“Results from the Kepler mission, two years after launch”

June 16, 2011—“Looking for eclipsing binary RR Lyr stars”

November 4, 2011—“SN 2011fe in M101”

February 6, 2012—“Doing science with small telescopes” (PDF)

Mike Simonsen (SXN, Imlay City, Michigan)

April 15, 2011—“Stand Back, I’m Going to Try Science!”, NorthEast Astro-Imaging Conference (NEAIC), Suffern, New York

June 1, 2011—variable stars, two afternoon talks), Texas Star Party, near Ft. Davis, Texas

October 22, 2011—“100 Years of AAVSO”, St. Louis Astronomical Society, Missouri

July 7, 2012—brief talk accepting Leslie Peltier Award, Astronomical League ALCon, Chicago, Illinois

October 18, 2012—“Introduction to Variable Stars”, Warren Astronomical Society, Warren, Michigan

Thank you, speakers!

Let us help you spread the word! Send us information about your event (upcoming or past) for inclusion in the October AAVSO Newsletter (submission deadline September 15). Many thanks for your education and outreach efforts on behalf of the AAVSO and variable star observing! ★

SCIENCE SUMMARY: AAVSO IN PRINT

ELIZABETH O. WAAGEN (WEO), AAVSO SENIOR TECHNICAL ASSISTANT

AAVSO data are constantly being used by researchers around the world in presentations and publications. Below is a listing of some of the publications that appeared 2013 March 28 through June 28 on the arXiv.org preprint server and used AAVSO data and/or acknowledged the AAVSO. To access these articles, type the preprint number into the “Search or Article-id” box at <http://www.arXiv.org>

- P. Klagyivik, Sz. Csizmadia, T. Pasternacki, et al., “Variability survey in the CoRoT SRa01 field: Implications of eclipsing binary distribution on cluster formation in NGC 2264”, (arXiv:1306.5908) [Jun 25, 2013]
- Pierre de Ponthiere, Franz-Josef Hamsch, Tom Krajci, Kenneth Menzies, “V0784 Ophiuchi: an RR Lyrae star with multiple Blazhko modulations”, (arXiv:1306.5904) [Jun 25, 2013]
- M. Otulakowska-Hypka, A. Olech, “Increasing supercycle lengths of active SU UMa-type dwarf novae”, (arXiv:1306.5189) [Jun 21, 2013]
- Oleg Malkov, Ekaterina Avvakumova, “Classification of eclipsing binaries: attractive systems”, (arXiv:1306.4537) [Jun 19, 2013]
- Claude E. Mack III, Jian Ge, Rohit Deshpande et al., “A Cautionary Tale: MARVELS Brown Dwarf Candidate Reveals Itself To Be A Very Long Period, Highly Eccentric Spectroscopic Stellar Binary”, (arXiv:1306.3157) [Jun 13, 2013]
- D. A. Garcia-Hernandez, O. Zamora, A. Yagüe et al., “Hot bottom burning and s-process nucleosynthesis in massive AGB stars at the beginning of the thermally-pulsing phase”, (arXiv:1306.2134) [Jun 10, 2013]
- Thomas E. Harrison, Randy D. Campbell, James E. Lyke, “Phase-Resolved Infrared Spectroscopy and Photometry of V1500 Cygni, and a Search for Similar Old Classical Novae”, (arXiv:1306.1504) [Jun 6, 2013]
- I. Gonidakis, P. J. Diamond and A. J. Kemball, “A long-term VLBA monitoring campaign of the $v=1$, $J=1-0$ SiO masers toward TX Cam - I. Morphology and Shock Waves”, (arXiv:1306.0274) [Jun 3, 2013]
- Ashish Raj, D.P.K. Banerjee and N.M. Ashok, “Nova KT Eri 2009: Infrared studies of a very fast and small amplitude He/N nova”, (arXiv:1305.7460) [May 31, 2013]
- J. C. A. Miller-Jones, G. R. Sivakoff, C. Knigge et al., “An accurate geometric distance to the compact binary SS Cygni vindicates accretion disc theory”, (arXiv:1305.5846) [May 24, 2013]
- J. L. Sokoloski, Arlin P. S. Crotts, Helena Uthas and Stephen Lawrence Columbia et al., “The Recurrent Nova T Pyx: Distance and Remnant Geometry from Light Echoes”, (arXiv:1305.5245) [May 22, 2013]
- David Rabinowitz, Megan E. Schwamb, Elena Hadjiyska et al., “The Peculiar Photometric Properties of 2010 WG9: A Slowly-Rotating Trans-Neptunian Object from the Oort Cloud”, (arXiv:1305.5134) [May 22, 2013]
- Geoffrey C. Clayton, T. R. Geballe, & Wanshu Zhang, “Variable Winds and Dust Formation in R Coronae Borealis Stars”, (arXiv:1305.5047) [May 22, 2013]
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We thank the above researchers for including the AAVSO and its resources in their work, and for acknowledging the AAVSO in their publication. We urge all those writing for publication to include the word “AAVSO” in their list of keywords. ★

VISUAL OBSERVING MANUAL IN HUNGARIAN AND FRENCH—2013 EDITION

SARA BECK (BSJ), AAVSO HEADQUARTERS

The Hungarian and French versions of the recently revised *Manual for Visual Observing of Variable Stars* may be downloaded at:

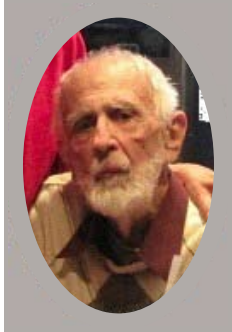
<http://www.aavso.org/visual-observing-manual>

It is hoped that these and the other translations will serve to encourage potential observers for whom English is not their primary language, and help them to learn the science and art of variable star observing in a way that is more comfortable for them. The Manuals are available free-of-charge and may be reproduced and distributed as needed.

Many thanks are owed to Péter Molnár and Dr. Laszlo Kiss for their work producing the Hungarian version and to Dominique Naillon for contributing the French translation. ★

IN MEMORIAM

MEMBERS, OBSERVERS, COLLEAGUES,
AND FRIENDS OF THE AAVSO



Art Cox

ARTHUR N. COX (Los Alamos, New Mexico). Arthur Nelson Cox passed away March 12, 2013, at the age of 85 after a short illness in Santa Fe, New Mexico. Art directly mentored countless astronomers and astrophysicists during his sixty years at Los Alamos National Laboratory, including both AAVSO Director

Arne Henden and Science Director Matthew Templeton in their student years. He helped usher in the age of computational astrophysics, creating some of the earliest computer algorithms for calculating stellar models and studying their pulsations. In turn he applied these methods to nearly all areas of stellar astrophysics. He was a member of International Astronomical Union (IAU) Division E Sun and Heliosphere, Division E Commission 12 Solar Radiation and Structure, Division G Stars and Stellar Physics, and Division G Commission 27 Variable Stars. Art was also a key organizer for the IAU biennial Stellar Pulsation conferences, and always asked questions that started long discussions among the attendees. His influence in stellar pulsation theory stretched across the entire HR diagram, from pre-main sequence delta Scuti stars up to Mira variables and luminous blue variables. His influence as a scientist, mentor, and friend reached even further, and he will be remembered for his knowledge, insights, and kindness, all of which he shared with many over the years. We extend our condolences to his family, colleagues, and friends. *from Dr. Matthew Templeton*

HILDE D. LUFT (Glenville, New York), wife of late longtime AAVSO member/observer Herbert Luft, died March 31, 2013, at the age of 99. Hilde, a very graceful and elegant, interesting lady, frequently came to AAVSO meetings with Herb. Born in Germany, she settled in New York City in 1937, where she met Herb, who had similarly fled his German homeland in 1939 and come to the U.S., but via Brazil. They married in 1949 and had one daughter, Mishka. Hilde became a “community grandmother” to the



Hilde Luft (right) with her husband,
Herbert Luft

many friends of her young grandsons, a role that brought her great joy. She also enjoyed music, museums, travel, and nature. Her husband Herb died of a heart attack in 1988 in Cambridge on his way to the AAVSO annual meeting; Hilde and Janet and Mike Mattei stayed in touch until Janet’s death in 2004. We extend our sincere sympathy to Hilde’s family and friends.



Giuliano Romano

GIULIANO ROMANO (Treviso, Italy), a well-known mentor of many Italian amateur astronomers, passed away on June 12, 2013, at the age of 90. He graduated in Mathematics from the University of Padua in 1950, where he taught Cosmology and History of Astronomy and carried out his research activity focused primarily on various types of variable stars and archeoastronomy. As an amateur, he was the first Italian to discover a supernova (SN 1957b in M84, Type Ia). Also, the luminous blue variable LBV V532 in M33 (GR 290), which he discovered, is usually referred to as “Romano’s star” in the professional literature. Tireless popularizer of astronomy, he kept observing for many years with his own private telescope from his backyard, supporting every amateur astronomy group he ventured to meet and founding some himself. During most of his life he also taught astronomy in high schools, promoting everywhere simple research projects for students of all ages. Our condolences go to his family, colleagues, and friends. *from Dr. Ulisse Munari, who had the privilege, as a teenager, of meeting Dr. Romano*

EMILE SCHWEITZER (SCZ, Strasbourg, France), longtime AAVSO observer, member, and colleague, died June 11, 2013, at the age of 89.



Emile Schweitzer

As SCZ, he submitted nearly 45,000 visual variable star observations to the AAVSO between June 1974 and October 2006, and was the recipient of an AAVSO Observer Award for contributing over 25,000 visual variable star observations. As Emile Schweitzer, he was the former General Secretary, President (1986–2000), and longtime Recorder (1973–2000) of the Association Française des Observateurs d’Étoiles Variables (AFOEV). He became interested in astronomy in the 1960s and discovered variable star observing after reading an article on the subject and its importance by Antoine Brun. He soon became involved with the AFOEV and its database as Recorder and its publications as editor of the *Bulletin de l’AFOEV*.

After he and AAVSO Director Janet Mattei met at a meeting in Europe around 1980, they began working together to re-establish a connection between the two organizations that had existed decades earlier, to update the AFOEV charts with AAVSO sequences, and to incorporate the AFOEV observations into the AAVSO International Database. Beginning in the early 1980s, Emile faithfully sent the AFOEV observation reports each month, first on paper and then by email. Even after he stepped down as Recorder, he answered or facilitated the answering of questions related to the observations, always promptly and with great courtesy; he was a true gentleman. He was a strong supporter of the International Chart Working Group’s efforts to unify charts worldwide for variable star observing. We appreciated our friendship with him and valued his many contributions to the very fruitful relationship between the AFOEV and the AAVSO. Minor planet (15052) Emileschweitzer is named in his honor.

On learning of Emile’s death, the AAVSO sent the following message to be read at his memorial service on June 19, 2013:

“The American Association of Variable Star Observers wishes to express its great sorrow on the death of Emile Schweitzer, former President of the Association Française des Observateurs d’Étoiles Variables and its longtime Recorder. The AAVSO was privileged to know him for

CONTINUED ON NEXT PAGE

IN MEMORIAM CONTINUED...

many years and to work with him since the early 1980s on the fruitful cooperation between our two organizations for the benefit of variable star astronomy.

“Emile was respected and admired by the AAVSO for his loyalty and devotion to the AFOEV for so many decades and his many efforts on its behalf, for his appreciation of variable star observers and their work, his wish for the valuable data in the AFOEV archives to be as widely available for research as possible, and for his personal contribution of nearly 45,000 visual variable star observations.

“The Officers—Director Arne Henden, President Mario Motta, Vice Presidents Jennifer Sokoloski and James Bedient, Secretary Gary Walker, and Treasurer Timothy Hager—and the Council, Staff, Members, and Observers of the AAVSO send their deepest condolences to Emile’s family, the AFOEV, and his colleagues and friends on the loss of this champion of variable star observing and observers.”

(photo by Andre Heck, from Organizations and Strategies in Astronomy 6 (OSA 6), Ed. A. Heck, (c) Springer 2006, 243)

Amendment to “In Memoriam” column

AAVSO Newsletter 56 (April 2013), page 11: The obituary on Martha Stahr Carpenter should have been credited to Dr. Kristine Larsen. Our sincere apologies to Kris for the oversight.

Ed. note: following is the Spanish language text of Arne’s Director’s message.

MENSAJE DEL DIRECTOR

ARNE A. HENDEN (HQA)

Acabamos de finalizar un muy buen encuentro de primavera en Boone, NC. Aunque la cantidad de inscriptos no fue tan alta como nos hubiese gustado, tuvimos varios nuevos asistentes de la región. Lee Hawkins y Dan Caton realizaron un gran trabajo como anfitriones y la Appalachian State University resultó ser mucho más interesante de lo que yo creía.

Este encuentro fue seguido inmediatamente por el de la SAS en Big Bear, CA. Concurro habitualmente a los encuentros de la SAS porque

es una muy buena forma de encontrarme con los aficionados y vendedores de la costa oeste. Por ejemplo, necesitaba conversar con Bob Denny sobre algunas características del software ACP, y la gente de PlaneWave había pedido reunirse conmigo para hablar sobre unos nuevos telescopios que están diseñando. Bill Goff y Jim Cottle tenían ideas para AAVSONet que querían discutir. Tal como el de Boone, el encuentro de la SAS tuvo menos asistencia que lo normal, pero la calidad de las presentaciones no lo sufrió. Emily Lakdawalla dió una gran charla de apertura, describiendo cómo NO dar una presentación PowerPoint. ¡Casi todos los expositores que le siguieron retocaron sus presentaciones para eliminar algunos de los errores comunes! Nuestro director de desarrollo, Mike Simonsen, fue el conductor del banquete, y ofreció una entretenida visión acerca de si la astronomía es un hobby o una obsesión. Dos talleres de fotometría DSLR y protección contra los rayos cerraron el encuentro. Llevaremos a cabo un encuentro conjunto entre la SAS y la AAVSO en el 2014, y les recomiendo muchísimo asistir a ese evento para escuchar charlas que abarcarán una amplia variedad de temas.

Acabo de completar un viaje por el sudoeste de los Estados Unidos para trabajar en varios de los telescopios de AAVSONet, como así también para charlar con varias personas en el camino. Mi primera parada, de hecho, fue para entregar en persona el Premio del Director a John Gross. John ha sido amigo y voluntario de la AAVSO por mucho tiempo y el premio lo tenía bien merecido.

Tuvimos dos Asistentes del programa Margaret Mayall este verano: Shouvik Bhattacharya (un frecuente participante de la sala de chat), y Anisha Sharma (que fue una estudiante del programa Maria Mitchell REU (Experiencias de Investigación para Estudiantes universitarios) el año pasado). Shouvik es de la India y se va a graduar en Creighton en el otoño. Anisha es de Nepal y acaba de graduarse en el Bennington College en Vermont. Nos están ayudando con el procesamiento de APASS y AAVSONet y participarán en varios proyectos de observación en HQ.

Ulisse Munari ha vuelto por unas 6 semanas como parte del programa de Colaboración en Investigación Janet Mattei, trabajando conmigo en diversos papers sobre APASS. Él es un gran recurso de procedimientos fotométricos y espectroscópicos y trabaja con muchos aficionados italianos en diferentes proyectos. Es un verdadero

placer para todo el staff tenerlo a él y a su esposa Emma como huéspedes en los Cuarteles Generales, y Emma nos ha estado ayudando con proyectos de la base de datos de la membresía.

Faltan sólo un par de semanas para el inicio de la Escuela de CCD (aún pueden registrarse, ¡pero apúrense!). Ron Dantowitz y Nick Weber del Clay Center Observatory en Brookline van a participar. Ron está actualizando el telescopio de 25 pulgadas del CCO para convertirlo en un instrumento fotométrico más efectivo y va a poner a disposición gran cantidad de tiempo de ese telescopio para la AAVSO. También dará una visita guiada por el observatorio a los asistentes a la Escuela.

Comenzamos con el concepto de Foro en nuestro sitio web hace cerca de un año, reemplazando las diversas listas de e-mail. Creo que el resultado ha sido muy efectivo, estamos consiguiendo muchos más participantes que postean en los foros y una variedad más grande de personas. Si no se han suscripto aún, les recomiendo hacerlo, se discuten muchos temas interesantes.

Estamos acercándonos al final del enorme proyecto de variables cataclísmicas del Telescopio Espacial Hubble, con sólo unos pocos objetos más aún por observar. Los observadores de la AAVSO han sido muy importantes, tanto para proteger la seguridad del instrumento COS (espectrógrafo), como al monitorear cada CV para entender en qué estado la variable se encuentra en la actualidad, su historia reciente y cuándo podría tener lugar la siguiente erupción. Se han obtenido algunos espectros muy buenos que llevará tiempo estudiar en detalle. También se están llevando a cabo varias otras campañas, ¡participen en ellas si tienen la oportunidad!

Quiero agradecer especialmente a todos aquellos que han participado en las diferentes encuestas llevadas a cabo por Kevin Paxson y el Consejo. Los resultados de las mismas ayudarán muchísimo a redireccionar a la AAVSO hacia el futuro. Ha sido genial leer los comentarios opcionales, ya que la gente, obviamente, ha puesto tiempo y esfuerzo en elaborar sus respuestas.

Este debería ser un verano fructífero, con progreso para muchos proyectos. ¡Asegúrense de asistir al encuentro de otoño en Woburn para enterarse de los últimos resultados! Espero que los meses que siguen sean excitantes para todos. ¡Cielos despejados y diviértanse! ★

Ed. note: following is the Spanish language text of Mario's President's message.

MENSAJE DEL PRESIDENTE

MARIO MOTTA, M.D. (MMX)

A todos los que vinieron a la reunión de primavera de AAVSO en Appalachian State University – Universidad Estatal de los Apalaches – (ASU) en Boone, Carolina del Norte, gracias por ser parte de un fin de semana lleno de eventos como interesantes charlas y un recorrido por las maravillosas instalaciones de la Universidad. Quiero dar las gracias a nuestros anfitriones que nos proporcionaron el precioso espacio y su apoyo. Para quienes se perdieron el encuentro, empiecen a hacer planes, desde ya, para venir a la reunión anual de Massachusetts que se celebrará del 11 al 12 octubre de 2013, durante el pico de la temporada del colorido otoño.

Aunque ASU tiene un centro de investigación en el Dark Sky Observatory (Observatorio de Cielo Oscuro que también visitamos, lo que me pareció más impresionante fue la instalación en el campus de una gran área cubierta con techo deslizante que alberga 20 telescopios Celestron C11 guiados por computadora cuyo único propósito es enseñar estudiantes sobre los aspectos prácticos de la adquisición de imágenes y la manipulación, observación y el control por computadora de estos telescopios. Muchas universidades tienen cursos de astronomía y, aunque el conocimiento astronómico adquirido por los estudiantes puede ser de primera clase, lo que a muchos graduados en programas de astronomía les falta es una comprensión real de cómo manipular un telescopio, cómo reunir datos y hacer realidad la adquisición de imágenes científicas. El dominio de estas habilidades les hará mejores astrónomos ya que entenderán todo el proceso y hasta las limitaciones de la adquisición de datos y del instrumental. Básicamente, van a aprender lo que todos lo que Ustedes lectores saben por ensayo y error y por experiencia. También percibí que si bien la mayoría de los que tomaron un curso de astronomía en la ASU no van a terminar siendo astrónomos profesionales, reunirán un valioso conocimiento de cómo se hace ciencia y cómo se puede llegar a disfrutar haciendo astronomía como aficionado, en el futuro, con una firme comprensión de cómo hacer ciencia. En otras palabras, son ellos los observadores perfectos que debemos reclutar.

Las instalaciones son maravillosas y es de esperar que más universidades incorporaren lo que es hoy la tecnología de realmente fácil adquisición. Siempre he creído que la astronomía se aprende mejor con la experiencia práctica. La mayor parte del público en general y los aficionados que están interesados en hacer lo que los observadores de AAVSO regularmente hacen, no tienen tal base. Si encuentra astrónomos aficionados interesados que están dispuestos a avanzar, puede hacer un gran servicio sirviendo de tutor mostrándole a esos observadores potenciales cómo hacer mediciones visuales, por CCD, o por computadora, que se tornen útiles para la ciencia. Esta es la experiencia práctica – en la que todos ustedes están muy familiarizados y muchos son altamente muy experimentados - que a veces intimida a los astrónomos aficionados novatos. No hay sustituto a la experiencia práctica real para obtener un nuevo astrónomo aficionado que va más allá de la etapa de la simple observación. Lo que todos ustedes han dominado (o están dominando) es, en realidad, una curva de aprendizaje bastante empinada. Así que, además de lo que muchos de ustedes hacen, es decir, mostrar a muchos amigos y al público el cielo, si usted ve potencial de progreso en un aficionado, considere dejar que él o ella observe cómo, en tiempo real, obtiene sus datos, y los reduce haciendo verdadera ciencia. Puede inspirar al próximo Leslie Peltier y crear un nuevo miembro de AAVSO.

En los últimos tiempos he notado un aumento en el número de solicitudes, por parte de profesionales, de la vigilancia de ciertas estrellas. Este es un gran homenaje a la reputación de AAVSO y de sus miembros y observadores, y una indicación de cómo nos valora la comunidad profesional. Prestigiosos investigadores que utilizan el Telescopio Espacial Hubble piden frecuentemente que contremos ciertas estrellas con el fin de seleccionar cuidadosamente el momento óptimo para el uso de los recursos escasos y limitados del Hubble. Estos son grandes proyectos para involucrarse y, posiblemente, para mostrar a personas que aún no son miembros de AAVSO como ejemplos de la ciencia real que podrían hacer y lograr si se unen con nosotros. Considere utilizar estas solicitudes como reales herramientas de reclutamiento, porque aunque tenemos un grupo de miembros y observadores grandes y dedicados, todavía hay demasiadas estrellas en el cielo y no suficientes noches despejadas para que podamos lograr observarlas a todas.

Por último, debido a la caída de la bolsa hace unos pocos años, nuestras finanzas no han rebotado hacia donde queremos y necesitamos. De hecho, junto con las restricciones y el general agotamiento del dinero de subvenciones, la AAVSO está en un verdadero apuro financiero para el futuro próximo previsible. Sólo el 7% de nuestro presupuesto operativo proviene de nuestras cuotas sociales. El resto proviene de donaciones, proyectos de investigación financiados y del producto de nuestro fondo de inversión. No podemos destruir nuestro fondo de inversión extrayendo fondos en exceso, por lo que habrá un período de estricta restricción en los gastos. Me alienta ver a tantos miembros que han renovado mediante el pago de la cuota más alta de miembro que apoya (sustaining member). Si está dentro de sus medios, por favor considere hacer precisamente eso en su próximo período de renovación. Y si puede, considere hacer una donación directa o legado testamentario a la AAVSO para continuar con nuestra labor. ¡Gracias a todos nuestros miembros por su amabilidad, generosidad y trabajo duro que hacen de AAVSO una organización tan respetada en la comunidad científica! ★

A NOTE ON THE TRANSLATIONS

We are grateful to Sebastian Otero and Jaime García for providing, respectively, the Spanish language versions of the Director's and President's messages, We hope that readers of the *Newsletter* will enjoy this feature.

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JOHN BORTLE (BRJ)—50 YEARS OF VARIABLE STAR OBSERVING

KEVIN B. PAXSON (PKV)—CENTERVILLE, OHIO

John Bortle is 69 years old and he lives in Stormville, New York, with Barbara, his wife of 46 years. They have four children and six grandchildren. John is currently retired, after a career in civil service spanning three decades. He is the leading active visual variable star observer in the United States, with over 210,000 estimates to his credit. John has received many awards and even has an asteroid named in his honor. He is well published and has either authored or co-authored numerous articles and papers on comets and variable stars since 1969.

John's interest in astronomy was first awakened during his pre-teen years in the early 1950s. "I recall the 1953 transit of Mercury occurring (it was cloudy here) and I saw my first partial solar eclipse in 1954 along with a total lunar eclipse shortly thereafter. My first telescope dates from Christmas of 1955. Variable stars caught my attention around 1957. However, after making a number of estimates, I found out that I was not old enough yet to become a member of AAVSO.

"My next encounter with the AAVSO came early in 1963 when my local astronomy group obtained a group membership with AAVSO. One older gentleman (Hyman Roche) and I took advantage and participated. He invited me to observe variables with him at his modest backyard observatory which housed a six inch Newtonian. He encouraged my early efforts and I consider him my true mentor. The first observation I submitted to AAVSO in my April 1963 monthly report was one of Nova Herculis 1963, now known as V533 Her. I've continued to follow this star ever since. My latest visual estimate of it was taken June 9/10 of this year, more than 50 years after I first saw it. V533 Her has a very special place in my heart, but I am also fascinated by several variables that I have long followed, including ER UMa, FN Sgr, TT Ari, and particularly V426 Oph.

"When I had my home built at Stormville in 1970 I enjoyed one of the finest possible observing locations. Stormville was then a semi-rural community about 75 miles north of New York City and 15 miles southeast of Poughkeepsie, NY. Situated on a hilltop, this location had no horizon obstructions higher than 3-degrees in any direction. Subsequently for some years I observed under skies with a naked eye limiting magnitude of +7.5 on most moonless nights. Today's conditions have evolved to be not nearly so favorable. The passage of forty years has seen the formerly small trees surrounding my property triple to quadruple in height. Light pollution has grown ever more obvious and intrusive, along with the major population and commercial growth in my and surrounding communities."

John has used a variety of instruments over the years. "I've always been a great proponent of using binoculars in conjunction with my variable star work. It was a love that developed from my years of associating with Ed Oravec, AAVSO's premier binocular observer. I've owned pairs ranging from 7×50 up to 20×120, the latter once housed in a separate rotating observatory à la Leslie Peltier's comet seeker building. My telescopes have been equally diverse. I started with a pair of 6-inch Newtonians, followed by an 8-inch RFT, then a 12.5-inch $f/5.6$ housed in an observatory I built around 1970. This latter



John Bortle and his 16-inch $f/4.5$ Dobsonian reflector.

instrument remained my workhorse for many years. Later I desired something even larger and in the mid-1980s fabricated a 20-inch $f/5$ Dobsonian. After a time I found this instrument just too cumbersome and slow to execute my normal observing program, so it was set aside and replaced with my current 16-inch $f/4.5$ Dobsonian. This latter instrument has proven functionally much more suited to my efforts."

"Over the years, I've built several small observatories at my home. My favorite was a 3-meter domed affair, but that housed an 8-inch $f/1.5$ Schmidt camera dedicated to comet work. My variable star telescopes have always been alt-azimuth mounted and have been housed in rather simple, fold-out or roll away shelters. This was done so that they can be opened and ready for observing in less than a minute, allowing me to take advantage of briefly clear evenings. However, I am currently fabricating a new 10×10 foot classic roll-off roof observatory."

John presently enjoys "perhaps 90 to 100 good nights per year, but this is significantly less than what I would experience several decades ago. During favorable summer and autumn months, I typically cover around 100 variable stars per evening. Currently, at least by my count, I'm closing in on 210,000 visual estimates. I say 'by my count,' since AAVSO Headquarters has so far failed to include about 10,000 of my eclipsing variable estimates made over the years into their database, so they show me near 200,000." [It was recently discovered at HQ that reports from an interval during the 1960s were not completely digitized. John's 'missing' data, which are of more than eclipsing binaries, are from this interval, and will be added to the AAVSO International Database when this interval is digitized.]

John uses three main eyepieces while observing. "I have two rather conventional eyepieces that I normal employ for observing: a 26-mm Televue Plossl (76× and 41.2' FOV) and a 9-mm Zhumell Plossl (257× and 13.5' FOV). I recently purchased an Explore Scientific wide-angle 6.7-mm eyepiece (273× and 17.2' FOV). I've owned many others over the years, but these three are my standard eyepieces for variable star work."

John follows a regular observing routine. "Most clear evenings will find me closely monitoring satellite images and keeping an eye on local sky conditions in the hour following sunset. About 15 minutes before full dark is scheduled to occur I will go out to my observatory and open it up. For the next 60 to 90 minutes I cover my program stars, then close up and retire to the house to prepare a quick report on CV activity for posting to the Yahoo CVnet-Outburst Page. The final write-up of the night's observations and submission to the AAVSO database usually waits until the next morning.

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JOHN BORTLE
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“From time to time I do consult variable star charts, but as one might imagine, after 50 years of doing this work in repetition most of my fields and sequences have become lodged in my memory, making charts unnecessary. The recent multiple changes in sequences generated by the chart committee has, however, caused me occasional grief in this area, but it hasn’t been too critical.

“Like most AAVSOers I started out mainly with Miras, semiregular, and irregular binocular variables, but for a time I also became heavily involved with eclipsers. However, once I acquired my 12.5-inch scope my interest turned mainly to CVs. My current program includes mostly dwarf novae, novae, AM Her stars, R CrB stars, Z And stars, some RV Tau and T Tau stars, plus a handful of Miras that I’ve been following for many decades.”

John is an avid comet observer and expert. “The very first issue of *Sky & Telescope* magazine I ever purchased contained an article about the coming apparition of Comet Arend-Roland in the spring of 1957. The comet turned out to be a spectacular zero magnitude sight late that April. Just three months thereafter, 1st magnitude Comet Mrkos burst unexpectedly onto the scene and as a result I was hooked for life on comets. Within a decade I had become one of the world’s foremost observers of these strange visitors and I had my first article in *Sky & Telescope* concerning them in 1969. I began authoring the ‘Comet Digest’ section for the magazine in 1977 and my articles appeared monthly in the magazine for more than 17 years. Since then I’ve had numerous additional articles, mostly addressing comets, in their pages.”

John is well published and has either authored or co-authored 995 articles or papers from 1969 to present, according to a recent search on the NASA ADS System. These include articles or papers from *Sky & Telescope*, *IAU Circulars*, the *International Comet Quarterly (ICQ)*, *IAU CBAT Central Bureau Electronic Telegrams*, *AAVSO Circulars*, and others. “I’m proudest of the article I co-authored with Charles Morris in 1985. It presented new information that clearly dispelled the long-held idea that P/Halley had been noticeably fading over the course of the last 10 centuries. The article was also influential in professional astronomers completely altering their concept of the lifetime and aging process of comets.”

John devised his Bortle Dark Sky Scale back in 2001. “Naked-eye limiting magnitude had been the standard for comparing observing site quality as far back as I could recall. However, in an age of growing light pollution, as well as its variability of accuracy from observer to observer, it increasingly became a very poor method of indicating true sky quality. As sky darkness matters so much in regard to seeing comets, and knowing an observer’s sky quality is often critical to know when evaluating the reported observations of others, I set about creating a...Dark Sky Scale that observers could easily use to more clearly define their sky quality. When this had been accomplished, *Sky & Telescope* published an article documenting it (<http://www.skyandtelescope.com/resources/darksky/3304011.html>). Oddly enough, although the system enjoys considerable popularity overseas, it seems to have only partially superseded the use of Naked Eye Limited Magnitude (NELM) in the United States.”

John was instrumental in the publication of the *AAVSO Circulars* in the pre-Internet era. “A small group of us at Stamford Observatory (Connecticut) had been meeting to discuss improvements that might be instituted to better

the AAVSO experience from both the inside and outside. In the late 1960s, many observers were disappointed by the lack of feedback from AAVSO Headquarters. At one of these meetings I brought up the possibility of issuing a monthly newsletter (the *AAVSO Circular*) created from observer-submitted data chronicling the latest month’s activity of several classes of stars. The idea met with approval and would subsequently operate semi-independent of AAVSO HQ. I took on editorship, while Charles Scovil became our publisher and distributor.

“The first issues of the *AAVSO Circular* appeared in November and December of 1969 and were mailed out free to all AAVSO members. Subscriptions quickly reached supporting level and in January 1970 we were off! The newsletter proved extremely popular with the observers and many professionals, allowing the former to see in a small way the fruits of their labor, plus their names, in print. I stuck with editing the *Circular* until December of 2000, when I saw that electronic means and the Internet would soon supersede my efforts.”

John has received many awards over the years, including the AAVSO Merit Award in 1983, the AAVSO Director’s Award in 1995, the Western Amateur Astronomers’ E. E. Barnard Award in 1990, and the Walter Scott Houston Award of the North East Region of the Astronomical League in 2010. “I must say that I was rather taken aback in being presented with the AAVSO Merit Award at the fall meeting thirty years ago. At the time, I regarded this award as something presented to acclaimed members of the organization in their advancing years after a long and illustrious career with AAVSO and here I was being presented one at only mid-life, hopefully with much yet to contribute! I am also particularly proud of being a recipient of the Astronomical Society of the Pacific’s Comet Medal for ‘Contributions to the Study of Comets by an Amateur’ in 1974, one of only six such medals ever awarded by them.”

Minor planet (4673) Bortle is named in John’s honor. This asteroid was discovered in 1988 by Carolyn Shoemaker and the name and citation were prepared by Charles S. Morris. “The naming of the asteroid was a truly big event for me, particularly so since it occurred in a time when the naming of asteroids for amateur astronomers was still a rare and distinguished honor.”

John has been going to Stellafane for many years. “Stellafane holds a very special place in my heart. My first attendance was as a young man of just 20 years. There I came in contact with and became friends with countless other hobbyists, some internationally famous, others just plain great folks to converse with about the hobby. This year will mark my 50th convention and I treasure the memories of people I’ve known there through the years.”

John has many interests beyond astronomy. “In years gone by I did quite a bit of landscape painting in oils, been an avid amateur meteorologist, and always had a deep interest in many areas of world and American history. But my most enduring pursuit over many years has been as a model railroader. For decades I have been creating miniature landscapes on my large 1:87 scale railroad layout, building award-winning structure models, authoring numerous modeling and model photography articles, and being a speaker at several hobby conventions.”

Despite the trend towards increased CCD imaging in variable star astronomy, John classifies himself as a “dyed-in-the-wool” visual observer. “I always have been and always will be. I simply couldn’t be happy doing

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JOHN BORTLE
CONTINUED...

non-visual data gathering in any form. I learned that lesson after a rather expensive stint in astrophotography. I appreciate that the era of serious visual observing may be passing, but I've personally had a very successful long run, so I can't let it go.

"I think that it is becoming rather obvious that at least within AAVSO, the future is in the realm of amateur CCD imaging work. Visual observing will likely endure for some years yet to come, but its ultimate demise as a result of advancing technology and deteriorating skies is already on the horizon. I find this particularly sad to me as I am, and always will be, a traditional visual observer. Of course, age dictates that my time remaining as a participant in the field is likely to be quite limited anyway, so the eventual outcome is rather a moot point for me personally.

"I see variable star observing becoming much closer in methodology and goals to professional work, largely through the use of sophisticated electronic gear. However, I think that the number of participants capable of the necessary quality level this sort of work entails (and its costs) may distinctly reduce our overall numbers within AAVSO. Then, too, it remains to be seen just how many individuals will fancy committing the needed time, effort, and funds required relative to those who today participate in the more relaxed, less expensive, and I think more enjoyable approach fostered by visual observing."

In the past month, John has been notified by the Astronomical League that he would be the 2013 recipient of their Leslie C. Peltier Award, which is given to "an amateur astronomer who has contributed astronomical observations of lasting significance." John says, "Leslie Peltier was, of course, the AAVSO's preeminent member, as well as a friend of mine. Since I will be unable to attend the Astronomical League's National Convention in Atlanta this July, arrangements are being made for me to formally accept this award at the AAVSO's 2013 Annual Meeting in Woburn, Massachusetts."

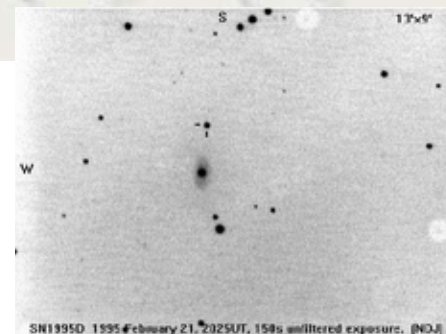
Congratulations John! ★

A REMARKABLE SUPERNOVA

MARK BRADBURY (BMK), GREENWOOD, INDIANA

In August 1992 I became a member of the AAVSO and began observing variable stars after I was provided with comparison charts sent to me by Dr. Janet Mattei. At that time I had a 10-inch Dobsonian reflector telescope and had become proficient with it since I had purchased it nine months earlier. By the beginning of 1995 I had signed up for the AAVSO Alert Notice, in which observers were alerted to very recent eruptions of novae and supernovae. In February 1995 some astronomers in Japan discovered by photographic means a supernova in the galaxy NGC 2962, which, according to various sources on the Internet, is located at a distance of about 70–90 million light years away. The supernova became known as SN1995D (Type Ia) and it had an apparent magnitude of about 11.5–13v. Since I had never seen a supernova in my life, I decided to try to observe it with my 10-inch scope.

I put my scope into my car and drove down to Goethe Link Observatory, about five miles south of Mooresville, Indiana. This old observatory, which contains a 36-inch $f/10$ modified Newtonian reflector, is owned and maintained by Indiana University but used



SN1995D in NGC 2962

mostly by our local astronomy club, the Indiana Astronomical Society, which is also known as the IAS. I set up my scope on the frozen, snowless ground in the backyard of the observatory along with my other equipment, comparison charts, red flashlight, thermal electric socks with size D batteries to keep my feet warm, insulated winter boots, thermal gloves, etc., and waited for sundown to begin my quest for SN1995D. It was that very weekend that the IAS was having its monthly observing night (Saturday) and we were fortunate to have clear, moonless skies and temperatures of about 34°F. With my star atlas I was able to find the location of SN1995D at the celestial coordinates and then switched over to my AAVSO comparison charts and begin my observation.

I was astounded by the sight. Not only did I see the host galaxy, which exhibited a ghostly feature with faint, wispy, nearly face-on spiral arms, but I also noticed very quickly the supernova which appeared in the northern part of the galaxy (see photo, courtesy of Nick James, Chelmsford, UK). The SN was very easy and plain to see in the 10-inch scope due to its color! That's right, the supernova, in spite of its great distance, displayed a rusty, orange hue which caused it to stand alone in the field of view although other objects were also in sight. I estimated the supernova at magnitude 12.5v. In order to verify my reaction to the color of the SN, I invited other members of the club to look at the SN through my scope in order to make sure I was not imagining the SN's color. The other members also saw the rusty, orange color of the SN and were just as amazed as I was.

We were amazed to see color in a supernova simply because of the great distance of its host galaxy. To see a supernova is one thing, but to see color in a supernova is something else. Yet again, in order to ascertain my visual observation of color in this supernova, I invited more people in our group to observe the supernova with the 36-inch scope inside the observatory. After a lot of slewing of the large scope in R.A. and Dec., we finally had the host galaxy, NGC 2962, in the eyepiece and I immediately saw the supernova and its rusty, orange color! Now, I was no longer in doubt about seeing color in this SN! Other members of our club also looked in the big scope, and saw the galaxy and its fascinating, haunting, wispy, spiral arms and the orange-colored supernova, which was a bright, glaring object in this large scope. This was a night to remember for two reasons: I saw my first supernova and it displayed color in spite of its terrific distance.

I have seen only two more supernovae in my observing career since SN1995D. Those two were SN1995V and SN1996bk. It was impressive to see these SNs as well but I was most impressed by SN1995D because of its color. In all my years in observing variable stars I have never heard any person talk about seeing color in a supernova in distant galaxies. Is there anyone who has? I would be interested in knowing. ★

AAVSO OBSERVING CAMPAIGNS UPDATE

**ELIZABETH O. WAAGEN (WEO),
AAVSO SENIOR TECHNICAL ASSISTANT**

Each campaign is summarized on the AAVSO Observing Campaigns page (<http://www.aavso.org/observing-campaigns>), which also includes complete lists of all AAVSO Alert and Special Notices issued for each campaign.

Campaigns concluded since April 2013

Begun in October 2010, Dr. Colin Aspin's (University of Hawai'i) campaign on the Young Stellar Objects **HBC 722** and **VSX J205126.1+440523** (*AAVSO Alert Notice 425*) has been concluded. 23 AAVSO observers contributed 2,202 multicolor observations of HBC 722, and 14 contributed 2,197 observations of VSX J205126.1+440523, providing excellent coverage over the two-and-a-half years of the campaign. Dr. Aspin is analyzing the AAVSO data and his optical and near-infrared spectroscopy to better understand these little-studied stars in their dusty environments.

Started in January 2011, the campaign on the blazar-type quasars **3C 273** and **3C 279** organized by Dr. Kirill Sokolovsky (Max-Planck-Institut fuer Radioastronomie, Bonn) is over (*AAVSO Alert Notice 430*, AAVSO campaign page <http://www.aavso.org/campaign-blazars-3c-273-and-3c-279>). 50 AAVSO observers provided 11,910 multicolor observations of 3C 273, and 21 provided 547 multicolor observations of the considerably fainter 3C 279!

Begun in January 2013, Dr. Bob Zavala's (U.S. Naval Observatory, Flagstaff) campaign on the bright triple system **b Per** is over (*AAVSO Alert Notice 476*). 10 AAVSO observers contributed 993 multicolor PEP, DSLR, and CCD observations, the eclipse was detected—two times of minimum, actually, as Dr. Zavala said might be seen due to the three components—and now the astronomers are analyzing the data on this complex multiple system.

Also begun in January 2013, the campaign by Dr. Péter Ábrahám (Konkoly Observatory, Budapest, Hungary) on eight young stars in Cha is over. He had asked for calibrated, transformed VRI photometry of the far-southern **CR Cha**, **CT Cha**, **HP Cha (Glass 1)**, **VW Cha**, **VZ Cha**, **WW Cha**, **WX Cha**, and **XX Cha** in support of VLT/ISAAC (infrared) and Herschel Space Observatory (far-infrared) observations (*AAVSO Alert Notice 478*). If you still have data that you have not yet reduced, please contact headquarters.

Campaigns initiated since April 2013

In April, graduate student Huan Meng and his advisor Dr. George Rieke (University of Arizona) requested AAVSO assistance in monitoring the 7th and 9th magnitude V stars **BD+20 307**, **HD 15407A**, and **HD 23514** for their dust production study in developing planetary systems (*AAVSO Alert Notice 482*). The purpose of their request for V photometry is to determine the non-variability of the targets so that they may rule out stellar variability when analyzing system changes (which would then be due to changes in the disk material) and correlating their Spitzer observations. The first observing window on these stars (at 2000 R.A. 0154+21, 0230+55, and 0346+22, respectively) has closed but **the second window will open in September and October**, so please keep these stars in your observing calendars!

In May, Dr. Juan Echevarria (Universidad Nacional Autónoma de México) and colleagues requested monitoring of the anomalously-behaving Z Cam-type dwarf nova **AH Her** through June (*AAVSO Alert Notice 483*). They requested V photometry and spectroscopy to determine the exact time of minimum for correlation with their ground-based photometry and spectroscopy. This radial velocity study of the AH Her system was the first carried out with modern detectors, and the first one done since ~1980. This campaign is now over. 44 AAVSO observers contributed 2,032 observations, providing excellent and essential coverage of the system's continuing anomalous behavior. Dr. Echevarria sends his sincere thanks, and says the analysis of the data is underway.

In June, Dr. Andrea Dupree (Harvard-Smithsonian Center for Astrophysics) requested visual and V observations of the symbiotic variable **AG Dra** for correlation with her upcoming Chandra x-ray and HST ultraviolet observations (*AAVSO Alert Notice 485*). The purpose of her observations is to study the dynamics of the gas, temperatures, and densities in various parts of this complex system, and AAVSO data will be essential.

Also in June, AAVSO observers were invited by Dr. Noel Richardson (Université de Montréal) and colleagues to participate in an international pro-am campaign that will run through September on the magnitude-8V Wolf Rayet stars **WR 134**, **WR 135**, and **WR 137** (*AAVSO Alert Notice 486*). This invitation is somewhat unusual for the AAVSO until recently in that the primary request is for spectroscopy, although filtered photometry is also requested. AAVSO observations are needed to support ground-based spectroscopy and MOST observations being carried out through September.

Campaigns in progress

The large campaign on **cataclysmic variables** organized by Drs. Boris Gaensicke (Warwick University), Joseph Patterson (Columbia University, Center for Backyard Astrophysics), and Arne Henden (AAVSO), and the 13 other consortium members astronomers, including Drs. Ed Guinan, Knox Long, and Paula Szkody, continues (*AAVSO Alert Notice 471* and many *AAVSO Special Notices*). As of the end of June 2013, 33 targets from the original list of 40 have been successfully observed by the Hubble Space Telescope Cosmic Origins Spectrograph (HST COS). These observations were possible thanks to the efforts of AAVSO observers worldwide who monitored the targets to be sure they would be faint enough for HST to observe safely. Observers are urged to continue their multiband photometry, spectroscopy, and visual observations as best their equipment and schedules permit. Dr. Gaensicke and colleagues continue to be very grateful for the excellent AAVSO support that is enabling the consortium's research, and they look forward to this fruitful collaboration continuing.

Dr. Margarita Karovska's HST and Chandra campaign on **CH Cyg** (*AAVSO Alert Notice 454* and *AAVSO Special Notices #267, 294, and 320*) continues and has been extended through the 2013 observing season at least. Dr. Karovska is grateful for all of the coverage so far and urges continued coverage, especially in V and B. Since this campaign began in March 2012, 146 observers have contributed 15,566 visual and multicolor observations!

The campaign organized by Dr. Michael Shara (American Museum of Natural History, Columbia University) to monitor the dwarf nova **U Gem** to enable and support HST/COS ultraviolet observations (*AAVSO Alert Notice 475*)

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CAMPAIGNS UPDATE CONTINUED...

continues. *U Gem has been at minimum for an unusually long time, and although its observing season is rapidly ending, please follow it just as long as you can, and pick it up again as soon as possible.* Dr. Shara has one more set of HST observations left, and he writes: “The AAVSO campaign was, and remains, enormously helpful. I certainly do need and want it to continue until after the next observed U Gem eruption [that HST can observe]. U Gem becomes available again for HST observations on September 10. It would be helpful to know of any eruptions between now and then; but it’s CRITICAL to know of an eruption after September 10, and to know when U Gem returns to quiescence. We will observe it with HST two days later.”

Dr. Eric Mamajek’s campaign on **J1407 (ISWASP J140747.93-394542.6)** (*AAVSO Alert Notice 462*) has been extended through 2014. He writes: “We are awaiting the next eclipse... Thus far there is no sign of eclipse in the 2012 or 2013 data. The lack of any measurable eclipse in June seems to indicate that a multi-day dip seen in ASAS photometry in 2001 is most likely not a secondary eclipse of the main occulting body which produced the 2007 deep eclipse sequence. This introduces the interesting possibility that the 2001 dip was from another body in the J1407 system.” They are pursuing various ideas about the nature of this body, “*So we would really appreciate more observations of this unique system by AAVSO observers! They have been very useful!*” (*AAVSO Alert Notice 462*)

Darryl Sergison’s (University of Exeter) campaign to study the environments of **six T Tauri stars** (*AAVSO Alert Notice 473*) continues. Coverage of the first three stars—**RY Tau**, **DN Tau**, and **DR Tau**—is over until the next observing season. This campaign runs through 2013 at least, and the other three stars will be announced when they have been selected.

Dr. Noel Richardson’s multiwavelength campaign on the luminous blue variable prototype **S Dor** continues at least through the 2013 observing season (*AAVSO Alert Notice 453*, *AAVSO Special Notice #280*, *AAVSO Special Notice #293*, and *S Doradus Telegram* on organizer’s website).

Ernst Pollmann’s campaign on the S Dor (= Luminous Blue Variable) variable **P Cyg** (*AAVSO Alert Notice 440*) continues “for several more years,” at least through the 2014 season.

HMXBs and SFXTs—High-Mass X-ray Binaries and Super Fast X-ray Transients, Dr. Gordon Sarty’s list (*AAVSO Alert Notices 348, 354, and 377*, *AAVSO Special Notices #118, #129, #143, #213, and #220*, and description of research program in *AAVSO*, Vol. 35, p. 327; article viewable at <http://adsabs.harvard.edu/abs/2007JAVSO...35..327S>)

Blazars—Dr. Markus Boettcher’s list (*AAVSO Alert Notice 353* at <http://www.aavso.org/node/1555/451>)

QX Pup—Mira variable (<http://www.aavso.org/qx-pup>)

Novae

One galactic nova was discovered between April 1 and June 30. **Nova Sco 2013 = PNV J17335943-3606216** was discovered by Koichi Nishiyama and Fujio Kabashima of Japan at magnitude 11.1 U on 2013 June 03.6146 UT. Multicolor and visual data obtained by nearly 13 AAVSO observers show the nova fading, and as of July 2 at 17.438V (Kevin Hills, HKB, Hartford, Cheshire, England).

As this busy year continues, please keep observing and participating in as many campaigns as your schedule and equipment permit!

The astronomers and we at AAVSO Headquarters are grateful to all of you who are participating in AAVSO Observing Campaigns, and we thank you for your contributions. You have been and continue to be a vital part of variable star research, so stay tuned, get plenty of rest, and keep your equipment at the ready! ★

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LOOKING AT LEGACY STARS

STARS OBSERVED RECENTLY AND RECOMMENDATIONS FOR THE NEXT FEW MONTHS

MATTHEW TEMPLETON (TMT), AAVSO SCIENCE DIRECTOR; SARA J. BECK (BSJ), AAVSO TECHNICAL ASSISTANT; ELIZABETH O. WAAGEN (WEO), AAVSO SENIOR TECHNICAL ASSISTANT

This column, introduced in *AAVSO Newsletter 54* (October 2012), is a quarterly summary of popular and important targets of the previous quarter as observed by the AAVSO community. This will help keep observers up to date on the observations being submitted to the AAVSO archives, and more importantly on what stars may need improved coverage by the community.

We encourage observers to keep a smaller subset of variables at the top of their observing planning via the Legacy and Program lists for LPVs and CVs (see <https://sites.google.com/site/aavsolpvsection/Home/lpv-files> for the LPV lists, and <https://sites.google.com/site/aavsocvsection/aavso-legacy-cvs> for the CV list). These lists were established to provide guidance on which stars had the best-observed light curves and thus had greatest potential for science if those stars continued being observed. There are thousands of other stars that are still regularly observed, and many objects not on the lists above remain worthy targets for variable star observers, visual and CCD alike.

Target lists for observers vary throughout the year, and the number of observations received changes depending upon a star's observability in a given season as well as whether there is special interest—for example, an observing campaign or recent notable activity. Quarterly totals also help to highlight what new and interesting data sets the AAVSO now holds.

Below are the most- and least-observed stars of the LPV and CV Legacy lists, showing the number of visual and CCD observers ($N_{(vo)}$ and $N_{(co)}$) along with the total number of nights observed ($N_{(von)}$ and $N_{(con)}$).

Top fifteen best-covered stars of the LPV Legacy program, as measured by number of nights observed, 2013 March 15 through June 15:

Name	Con	R. A. (J2000)	Dec. (J2000)	$N_{(vo)}$	$N_{(von)}$	$N_{(co)}$	$N_{(con)}$
R Car	Car	09:32:14.59	-62:47:19.9	12	49	2	13
R Leo	Leo	09:47:33.48	+11:25:43.7	95	88	5	8
ST UMa	UMa	11:27:50.37	+45:11:06.7	24	76	0	0
Z UMa	UMa	11:56:30.22	+57:52:17.6	67	87	2	2
T UMa	UMa	12:36:23.46	+59:29:12.9	52	77	3	7
S UMa	UMa	12:43:56.67	+61:05:35.4	61	82	1	1
V CVn	CVn	13:19:27.77	+45:31:37.7	27	79	0	0
R Cen	Cen	14:16:34.31	-59:54:49.2	8	29	3	20
S CrB	CrB	15:21:23.95	+31:22:02.6	16	40	9	39
RU Her	Her	16:10:14.52	+25:04:14.3	11	20	8	34
g Her	Her	16:28:38.54	+41:52:53.9	29	80	1	1
W Her	Her	16:35:12.31	+37:20:43	13	21	8	30
CH Cyg	Cyg	19:24:33.06	+50:14:29	42	83	6	68
khi Cyg	Cyg	19:50:33.91	+32:54:50.6	56	79	5	34
rho Cas	Cas	23:54:23.03	+57:29:57.8	29	76	2	11

$N_{(vo)}$ = number of observers making visual observations

$N_{(von)}$ = number of nights with visual observations

$N_{(co)}$ = number of observers making ccd observations

$N_{(con)}$ = number of nights with ccd observations

Fifteen least-observed stars of the LPV Legacy program for the quarter 2013 March 15 through June 15:

Name	Con	R. A. (J2000)	Dec. (J2000)	$N_{(vo)}$	$N_{(von)}$	$N_{(co)}$	$N_{(con)}$
R And	And	00:24:01.94	+38:34:37.3	3	6	1	5
U Per	Per	01:59:35.1	+54:49:19.9	4	10	1	2
R Ari	Ari	02:16:07.1	+25:03:23.6	2	4	1	2
W And	And	02:17:32.95	+44:18:17.7	3	3	3	8
omi Cet	Cet	02:19:20.78	-02:58:39.5	0	0	0	0
W Per	Per	02:50:37.89	+56:59:00.3	2	4	2	2
W Tau	Tau	04:27:57.18	+16:02:36.1	10	13	1	5
R Lep	Lep	04:59:36.34	-14:48:22.5	7	15	0	0
Z Pup	Pup	07:32:38.05	-20:39:29.2	8	18	0	0
R Cyg	Cyg	19:36:49.38	+50:11:59.4	9	14	3	11
Z Cyg	Cyg	20:01:27.46	+50:02:32.6	8	14	1	5
S Del	Del	20:43:04.87	+17:05:17.3	6	7	3	12
R Vul	Vul	21:04:22.5	+23:49:18	6	16	1	3
R Peg	Peg	23:06:39.17	+10:32:36	0	0	0	0
R Aqr	Aqr	23:43:49.45	-15:17:04.1	3	6	0	0

Observations are strongly encouraged as these stars become observable.

Observers should consider adding any of these stars to their observing programs to improve coverage of the legacy stars.

Top fifteen best-covered stars of the CV Legacy program, as measured by number of observers and nights observed, 2013 March 15 through June 15:

Name	Con	R. A. (J2000)	Dec. (J2000)	$N_{(vo)}$	$N_{(von)}$	$N_{(co)}$	$N_{(con)}$
U Gem	Gem	07:55:05.21	+22:00:04.7	37	61	14	53
SU UMa	UMa	08:12:28.27	+62:36:22.2	16	67	1	2
Z Cam	Cam	08:25:13.18	+73:06:39	35	86	4	42
AT Cnc	Cnc	08:28:36.89	+25:20:02.9	11	33	9	65
SY Cnc	Cnc	09:01:03.31	+17:53:56	22	52	11	66
X Leo	Leo	09:51:01.41	+11:52:30.2	19	70	8	44
CH UMa	UMa	10:07:00.68	+67:32:47	11	61	1	5
RZ Leo	Leo	11:37:22.23	+01:48:58.2	14	51	11	49
BC UMa	UMa	11:52:15.85	+49:14:41.9	14	60	5	22
T CrB	CrB	15:59:30.16	+25:55:12.6	62	79	8	32
AH Her	Her	16:44:10.01	+25:15:02	25	62	29	83
V0426 Oph	Oph	18:07:51.68	+05:51:47.8	3	7	7	69
CH Cyg	Cyg	19:24:33.06	+50:14:29.1	42	83	6	68
EM Cyg	Cyg	19:38:40.11	+30:30:28.4	11	34	8	71
VW Vul	Vul	20:57:45.06	+25:30:25.7	1	3	6	55
SS Cyg	Cyg	21:42:42.78	+43:35:09.8	45	78	15	77

CONTINUED ON NEXT PAGE

LEGACY STARS
CONTINUED...

Stars in CV Legacy list with no visual or CCD observations during the quarter from 2013 March 15 through June 15:

Name	Con	R. A. (J2000)	Dec. (J2000)	$N_{(vo)}$	$N_{(von)}$	$N_{(co)}$	$N_{(con)}$
WW Cet	Cet	00:11:24.72	-11:28:42.9	0	0	0	0
LS And	And	00:32:10.21	+41:58:11.6	0	0	0	0
FN And	And	01:11:57.54	+35:17:24.2	0	0	0	0
FO And	And	01:15:32.09	+37:37:34.2	0	0	0	0
WX Cet	Cet	01:17:04.18	-17:56:22.5	0	0	0	0
TY Psc	Psc	01:25:39.35	+32:23:09.2	0	0	0	0
AR And	And	01:45:03.24	+37:56:32.8	0	0	0	0
TT Ari	Ari	02:06:53.09	+15:17:41.7	0	0	0	0
SV Ari	Ari	03:25:03.34	+19:49:52.8	0	0	0	0
SY Mus	Mus	11:32:10.01	-65:25:11.6	0	0	0	0
AE Cir	Cir	14:44:51.29	-69:23:34.5	0	0	0	0
BR Lup	Lup	15:35:53.09	-40:34:05	0	0	0	0
IK Nor	Nor	16:25:28.86	-55:20:02.7	0	0	0	0
BF Ara	Ara	17:38:21.33	-47:10:41.4	0	0	0	0
MU Ser	Ser	17:55:52.77	-14:01:17.1	0	0	0	0
V1830 Sgr	Sgr	18:13:50.65	-27:42:21	0	0	0	0
FM Sgr	Sgr	18:17:18.25	-23:38:27.8	0	0	0	0
V0441 Sgr	Sgr	18:22:08.09	-25:28:47.3	0	0	0	0
CH Her	Her	18:34:46.32	+24:48:01.6	0	0	0	0
V4021 Sgr	Sgr	18:38:14.88	-23:22:47.1	0	0	0	0
V0446 Her	Her	18:57:21.59	+13:14:29	0	0	0	0
FO Aql	Aql	19:16:38.11	+00:07:37.4	0	0	0	0
PW Vul	Vul	19:26:05.04	+27:21:57.7	0	0	0	0
NQ Vul	Vul	19:29:14.75	+20:27:59.7	0	0	0	0
LV Vul	Vul	19:48:00.7	+27:10:19.5	0	0	0	0
V0476 Cyg	Cyg	19:58:24.47	+53:37:06.7	0	0	0	0
AW Sge	Sge	19:58:37.07	+16:41:27.8	0	0	0	0
QU Vul	Vul	20:26:46.02	+27:50:43.2	0	0	0	0
V1500 Cyg	Cyg	21:11:36.6	+48:09:02.4	0	0	0	0
EF Peg	Peg	21:15:04.12	+14:03:49.2	0	0	0	0
VZ Aqr	Aqr	21:30:24.59	-02:59:17	0	0	0	0
V1668 Cyg	Cyg	21:42:35.33	+44:01:54.5	0	0	0	0
CP Lac	Lac	22:15:41.15	+55:37:01.4	0	0	0	0
TY PsA	Psa	22:49:39.84	-27:06:53.7	0	0	0	0
DX And	And	23:29:46.7	+43:45:04.6	0	0	0	0

As above, observations are strongly encouraged as these stars become observable and observers should consider adding any of these stars to their observing programs to improve coverage of the legacy stars. ★

PHOTOELECTRIC PHOTOMETRY PROGRAM UPDATE
MATTHEW TEMPLETON (TMT), AAVSO SCIENCE DIRECTOR

AAVSO PEP observers provided interesting data for a number of targets for the quarter starting April 1, 2013, with ten AAVSO PEP observers making 447 observations of 59 different stars.

Our most prolific observer of the season was a familiar name to many PEP observers -- Gerald Persha of Optec Incorporated, makers of the SSP-3, -4, and -5 photometers that many of the AAVSO's PEP observers have used over the years. He made 225 measurements during the quarter, 93 in each of B and V, and another 39 in R. Charles Calia (CCB) was next with 69 V-band measures, followed by PEP Chairman Jim Fox (FXJ) with 61 V-band measures. Georgio DiScala (DSI) made 18 observations in each of the J- and H-bands for a total of 36. He was followed by Pat Rochford, who made 31 V-band measures; Adrian Ormsby (OAD) and Councillor John Martin (UIS01), who both made 3 in each of B and V bands for a total of 6; Erwin Van Ballegoij (BVE), who made five V-band measures, new observer James Kay (KJMB) four, and Thomas Rutherford (RTH) two in each of J- and H- for a total of four.

Gerald Persha's target (and overall best-observed star) for the quarter was the eclipsing binary i Boo, for which he obtained four sets of high-precision time series with three clear measures of eclipses. Next best observed was TV UMa with 25 observations, followed by RS Cnc (16), W Boo (16), FS Com (15), RS CVn (12), X Her (12), and GK Com (11); a number of other stars were observed fewer than 10 times during the quarter, including a few long-term targets and campaign stars, like P Cyg (7 observations), epsilon Aurigae (7), and my favorite, Betelgeuse (1 observation) made by Chairman Jim Fox in late April, bumping right up against evening twilight.

We remind observers to consult the current list of comparison and check stars, available here: <http://www.aavso.org/pep-starparm>

We believe that the current PEP light curve of W Boo may have a mix of measures with the old and new comparison star, and we will adjust these reports accordingly. Note the current comparison stars for W Boo are:

Comp: SAO 83427
(R.A.: 14:36:06.87, Dec.: +23:15:01.3), V=6.367, B-V=1.054

Check: SAO 83535
(R.A.: 14:48:23.34, Dec.: +24:22:00.8), V=6.155

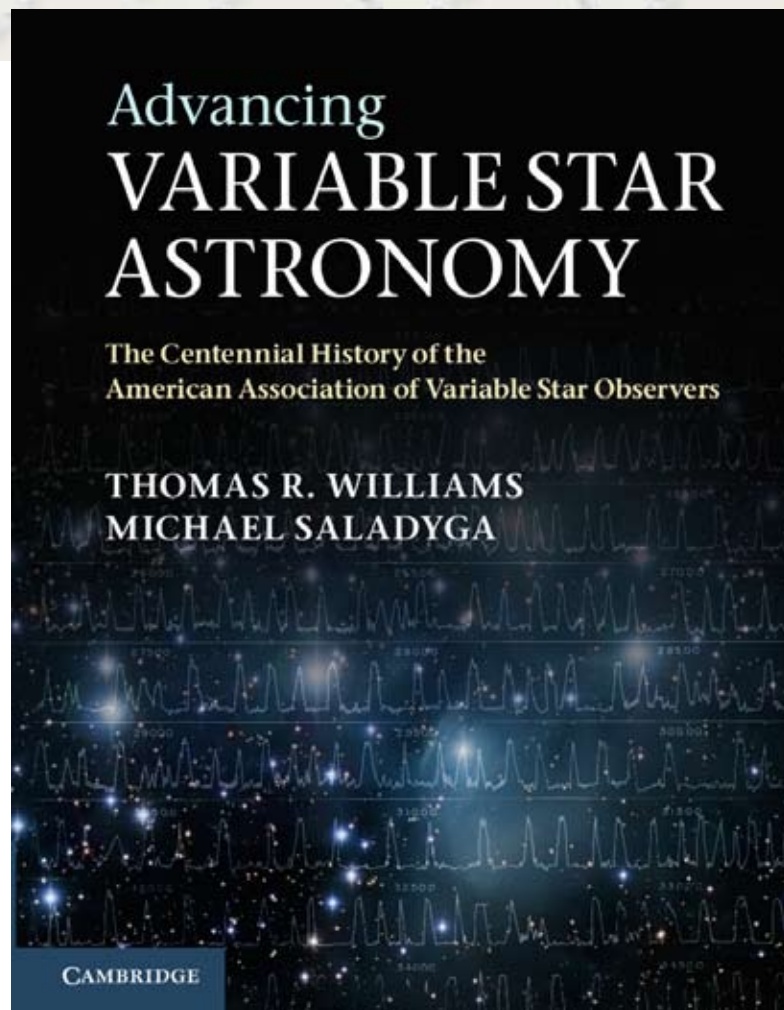
We make special note of the data from our one Australian observer, Georgio DiScala, who contributed a number of PEP-J and -H band measures of several prominent southern targets, including BH Cru, eta Car, W Cen, R Car, R Cen, and Y Lup; he's been coupling these IR observations with CCD observations in BVR_cI_c as well!

For a list of other PEP targets, visit "Suggested Stars for PEP Observers" on the AAVSO website: <http://www.aavso.org/suggested-stars-pep-observers>

And new (or curious) members can learn more about photoelectric photometry on the main section site: <http://www.aavso.org/aavso-photoelectric-photometry-pep-program>.

Clear skies! ★

The AAVSO CENTENNIAL HISTORY



Advancing Variable Star Astronomy:

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JULIAN DATE / MOON PHASE CALENDARS

2,450,000 plus the value given for each date

JULY 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 6475	2 6476	3 6477	4 6478	5 6479	6 6480
7 6481	8 6482	9 6483	10 6484	11 6485	12 6486	13 6487
14 6488	15 6489	16 6490	17 6491	18 6492	19 6493	20 6494
21 6495	22 6496	23 6497	24 6498	25 6499	26 6500	27 6501
28 6502	29 6503	30 6504	31 6505			

AUGUST 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 6506	2 6507	3 6508
4 6509	5 6510	6 6511	7 6512	8 6513	9 6514	10 6515
11 6516	12 6517	13 6518	14 6519	15 6520	16 6521	17 6522
18 6523	19 6524	20 6525	21 6526	22 6527	23 6528	24 6529
25 6530	26 6531	27 6532	28 6533	29 6534	30 6535	31 6536

SEPTEMBER 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 6537	2 6538	3 6539	4 6540	5 6541	6 6542	7 6543
8 6544	9 6545	10 6546	11 6547	12 6548	13 6549	14 6550
15 6551	16 6552	17 6553	18 6554	19 6555	20 6556	21 6557
22 6558	23 6559	24 6560	25 6561	26 6562	27 6563	28 6564
29 6565	30 6566					

Moon calendars courtesy StarDate online

<http://stardate.org/nightsky/moon/>

THE AAVSO MENTOR PROGRAM

Since the earliest days of the AAVSO, experienced observers have helped new observers by corresponding, answering questions, and even providing personal guidance at the telescope.

If you would like to talk with an experienced variable star observer, contact the AAVSO and we will put you in contact with the mentor program coordinator, Mike Simonsen. Just send us an email (mentor@aauso.org), or call 617-354-0484 to let us know you are interested in this program.

Ideally, Mike will be able to provide you with names, addresses, and phone numbers of active AAVSO observers near you. If there are none located in your area, he can at least provide you with more distant contacts. A simple phone chat with an experienced observer may provide all the feedback you need to continue progressing as an AAVSO observer.

Visit the AAVSO mentor program webpage:

<http://www.aauso.org/mentor-program>



BY POPULAR DEMAND!

A set of twenty pdf commemorative posters exhibited at AAVSO Headquarters is available for downloading from our ftp site.

The posters show portraits of the AAVSO's Directors, Presidents, Secretaries, Treasurers, Council members, and Staff from 1911 to 2011, and the top Visual, CCD, PEP, and Photographic/Photovisual observers. For more information go to: <http://www.aauso.org/aauso-100th-anniversary-commemorative-posters>

or use this link:

<http://tinyurl.com/cge9t9s>

THE AAVSO WALTER A. FEIBELMAN SUITE

The Feibelman Suite is available to guests who are in the Boston/Cambridge area to perform an AAVSO-related task, that is, the purpose of their visit is to do something for or related to the AAVSO. For details about the suite or making a reservation, please visit



<http://www.aauso.org/walter-feibelman-guest-suite>

See the following pages for important information about membership renewals and contributions.

JOIN THE AAVSO!

AAVSO 2013 New Member Form

Please send application, first year's dues, and application fee to:
AAVSO, 49 Bay State Road, Cambridge, MA 02138, USA

Date: _____

Full Name: _____

Full Address: _____

Telephone 1: _____ Telephone 2: _____

E-Mail: _____

Birth Date: _____ Vocation: _____

Telescopic Equipment: _____

Astronomical Experience (if any): _____

How did you learn about the AAVSO? _____

Types of Membership Offered and Dues

Annual:	Adult	US \$5.00 per month
	Associate (Under 21)/Pension/Limited Income	US \$2.50 per month
Sustaining:		US \$10.00 per month

Membership is paid through the end of the year, starting with the current month.

All applicants also add a one-time, \$10.00 application fee.

Please consult the following table to find out how much to pay, including application fee.

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept*	Oct*	Nov*	Dec*
Annual	\$60.00	\$55.00	\$50.00	\$45.00	\$40.00	\$35.00	\$30.00	\$25.00	\$80.00	\$75.00	\$70.00	\$65.00
A/P/LI	\$30.00	\$27.50	\$25.00	\$22.50	\$20.00	\$17.50	\$15.00	\$12.50	\$40.00	\$37.50	\$35.00	\$32.50
Sustaining	\$120.00	\$110.00	\$100.00	\$90.00	\$80.00	\$70.00	\$60.00	\$50.00	\$160.00	\$150.00	\$140.00	\$130.00

*Please note that if joining in September–December, the following year's dues are already being collected, so we request that you pay for the end of this year and for the following year.

Dues (see chart): US \$ _____ **Application fee:** US \$ 10 _____

Donation (optional): US \$ _____ to _____ fund (see box on right)

Total payment (dues + fee + donation): US \$ _____

Contributions (see last page for descriptions):	
AAVSO Building Fund	\$ _____
Janet A. Mattei Research Fellowship	\$ _____
Margaret Mayall Assistantship	\$ _____
Member Sponsorship Fund	\$ _____
AAVSO General Fund	\$ _____

_____ I have enclosed a check / money order _____ Please charge my credit card (Visa or Mastercard)

Credit card #: _____ Exp. Date: _____ Security Code (on back of card): _____

Cardholder's Name (as on card): _____

Billing address (if different from above): _____

Signature: _____

MEMBERSHIP RENEWAL

On this page is a copy of the AAVSO membership renewal form for 2013. You may also renew your membership online. Safe and secure online payments are possible by visiting <http://www.aavso.org/membership-renew>. If your postal or email address has changed, please also take a minute to update your personal profile online. Simply click "User login" at the upper right of the home page, then go to "My account." In addition to your dues, your contributions to the AAVSO further support the organization's activities and are very much appreciated. Also, on the next page you will find descriptions of the various funds to which you may contribute.



AAVSO
Membership and Subscriptions
49 Bay State Rd
Cambridge, MA 02138-1203

Name _____

Address _____

City _____

State/Province _____

Zip/Postal Code _____

Country _____

Payment and Contact Information

My **check** for \$_____ is enclosed. *Checks must be in US funds and made payable to AAVSO.*

For payment by **credit card** please complete the section below. *All fields are required.*

__ Visa __ Mastercard Card Number _____ - _____ - _____ Exp Date: ____ / ____

Card Security Code (3-digit number on the back of your card): _____ Total to be charged: \$ _____

Name on card: _____ Signature: _____

If the billing address for this credit card is different from your address above, please provide it here:

Billing Address _____ City _____

State/Province _____ Zip/Postal Code _____ Country _____

Please make any changes necessary to correct and complete your membership contact information below:

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal code: _____ Country: _____

Phone: _____ Email: _____

2013 Membership Dues Renewal Form

Membership Type (*please check one*)

___ Annual \$60 ___ Sustaining \$120

___ Associate (under 21) \$30

___ Pension/Limited Income \$30

Contributions (*see next page for descriptions*)

AAVSO Building Fund \$ _____

Janet A. Mattei Research Fellowship \$ _____

Margaret Mayall Assistantship \$ _____

Member Sponsorship Fund \$ _____

AAVSO General Fund \$ _____

TOTAL ENCLOSED \$ _____

SUPPORT THE AAVSO

In order to sustain the AAVSO and its operations, we rely on the generous support provided by members, sponsors, donors, and staff. Together we are the AAVSO. Your gift is a way for you to say that you believe in what we are doing and that you want it to continue moving forward. Every dollar given and membership purchased benefits the AAVSO in a necessary and unique way.

AAVSO Building Fund: Contributions to this fund will be used to replenish the Endowment, to refurbish the building, and to cover other costs associated with the purchase of 49 Bay State Road, Cambridge, Massachusetts. We expect the new Headquarters to meet the needs of the AAVSO for decades to come, with sufficient space for growth, for safeguarding our century-long archives, and for giving us the opportunity to hold meetings and workshops at Headquarters.

Janet A. Mattei Research Fellowship Fund: Contributions to this fund help to bring a visiting scientist, postdoctoral researcher, or student to AAVSO Headquarters to perform research using the AAVSO International Database with the goal of disseminating the results throughout the astronomical community.

Margaret W. Mayall Assistantship Fund: Established in honor of the former Director of the AAVSO on the occasion of her retirement in 1974, this fund is used to hire summer research assistants to carry out various important technical projects of the organization.

Member Sponsorship Program: Contributions to this fund go toward paying for the membership dues of an active observer who otherwise would not be able to become a member of the AAVSO. The recipients are chosen by the Director based on the quality and number of observations submitted to Headquarters and the perceived benefit of membership to the observer.

AAVSO General Fund: Contributions to this fund help in the operation of the AAVSO, enabling us better to serve the needs of our members and the astronomical community.

If you wish to contribute to one or more of these funds please fill in the amount on the appropriate line on your renewal form and include it in the total. *All contributions are tax-deductible in the USA.*

You may also donate online at: <http://www.aavso.org/support-aavso>

Thank you for your support of the AAVSO!