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# AAVSO Newsletter

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.*

## FROM THE DIRECTOR'S DESK

ARNE A. HENDEN (HQA)



Not one, but two naked-eye novae this year! V339 Del (Nova Del 2013) went into outburst in August, and is still stuck at 11th magnitude as I write. This was a great northern nova, well-placed in the evening sky for observation, and reaching 4.3 mag at peak. There are tens of thousands of observations of it in the International Database, and more will be coming before solar conjunction. The spectroscopists had a heyday, acquiring hundreds of spectra, and Steve Shore has been shepherding them through the reduction and analysis of novae spectrum.

Then in early December, V1369 Cen (Nova Cen 2013) went into outburst for the southern observers. Discovered by John Seach in Australia, this nova may or may not have peaked at about  $V = 3.8$ ; we don't know for sure yet. Its progenitor was about 15th magnitude, so this is at least an 11-magnitude outburst. This nova is an early morning object, which means that it is difficult to get good overlapping time series at this point, but it will be with us for months to come. I hope everyone has had the opportunity to look at one or the other of these novae!

Did you miss ISON? Those were some lovely images from SOHO, showing the demise of this sun-grazer. I saw some wonderful images before perihelion, and the shots from Mars were unexpected. However, don't despair—Comet Lovejoy is still bright and showing off. Get out and watch this comet if it is in the right location for you.

We've run some experiments, both with V339 Del and with the anomalous Cepheid candidate XZ Cet, to help observers understand the limitations of their equipment and improve their photometry. I'm having fun giving advice; I hope everyone participating is picking up a few pointers!

We will be saying goodbye to our Administrative Assistant, Lauren Rosenbaum, in early January. Lauren worked with us while she was going to graduate school, and now moves on to her real career. I can't think of a better fit to our organization than Lauren was, and she will be missed! We are in the process of selecting her replacement, so when that happens, be kind to the new person and let them settle into the job.

January will also see the beginning of construction around HQ. Cambridge is redoing the storm drain system, and all of the streets near us will be torn

## PRESIDENT'S MESSAGE

JENO SOKOLOSKI



In early 2011, when Council was deciding on the renewal of the Director's contract, an external panel of experts reviewed Arne's performance as Director. When they delivered their report, they noted that the duties of the Director and the Council are so intertwined that it was hard to critique one without also examining the other. Whereas they found the Director to be leading the AAVSO effectively, they concluded that Council was not governing as well as it could be. In particular, they suggested that, "The Council itself could greatly assist the AAVSO by adopting the recommended practices for non-profit organizations."

My main goals for my two-year term as President are to: 1) guide Council through the continuing process that we began in 2011 of implementing the recommended practices for non-profit organizations (which I describe in more detail below); 2) help the Council hire a fantastic new Director; and 3) help make the transition between Directors in early 2015 a smooth one.

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

up for the next two years. It may be a challenge to reach headquarters, but well worth the effort! Speaking of HQ, there is lots of background activity that doesn't show up on forums or newsletters, but means that we are improving our support of our members and observers. Will finished the programming for the Adopt-a-Star campaign—have you selected your favorite star yet? Sara has been working on the new CCD manual, and working with many CCD and visual observers to correct their submitted photometry. Matt completed work on his two NASA/NSF grants, and has been improving the AAVSONet pipeline. Doc has been handling computer issues as well as the systems support for AAVSONet. Elizabeth has been running campaigns (you did observe SS Cyg and BB Ari, right?), and she and Mike Saladyga have been working hard on the *Journal* and *Newsletter*. Rebecca has been the key person in managing our NSF grants and is working with me on administrative issues. Sebastian is helping me with APASS, as well as continuing his great VSX support. Donna continues to tour the country, promoting Chandra, the AAVSO, and Science Olympiad. Mike Simonsen not only talks to each new member and handles fund-raising, but has also been giving some funny speeches at club meetings.

I hope that everyone has the opportunity to enjoy the holiday season, and sit back and view their accomplishments for the year in a favorable light.

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I enjoy writing my contribution to the *Annual Report* at this time of year because I get to relive the many advances the organization has made, as well as anticipate improvements that will occur in the next year. Even more fun is the unknown: what new nova, comet, or variable star will appear in the future that will attract our attention? Such fun! ★

*Ed. note: the Spanish language version of Arne's message can be found on page 13.*

**PRESIDENT'S MESSAGE  
CONTINUED...**

Kevin Marvel, who is heading the Search Committee, reported on the progress of the search for a new Director at the most recent membership meeting in Woburn, Massachusetts. The post by Secretary Gary Walker in the Governance Forum on October 16, 2013, also contains information about the search. We received applications from twelve excellent candidates for the position of Director. The Search Committee is now very carefully reviewing the applicants, following a procedure that we crafted to be as impartial as possible so as to produce the best ranked list of the top four or so candidates for delivery to Council. In terms of putting the best practices for governing a non-profit into action, the Council is starting to conduct informal, constructive annual reviews of the director, of council itself, and of the degree to which the various programs of the AAVSO serve our mission. If Council and I can accomplish my three goals, along with our regular responsibilities, I believe that the AAVSO will continue to be on an excellent course for the future.

So, what are these best practices for governing a non-profit? BoardSource, which is a well-respected organization that has served more than 75,000 non-profit leaders, is devoted to helping non-profit groups like the AAVSO ([www.boardsource.org](http://www.boardsource.org)). According to BoardSource, optimal governance starts with a realistic plan for carrying out the 10 responsibilities of a governing council. These responsibilities are:

- Determine mission and purpose.
- Select the chief executive.
- Support and evaluate the chief executive.
- Ensure effective planning.
- Monitor, and strengthen programs and services.
- Ensure adequate financial resources.
- Protect assets and provide proper financial oversight.
- Build a competent board.
- Ensure legal and ethical integrity.
- Enhance the organization's public standing.

**DIRECTOR** Arne A. Henden  
**PRESIDENT** Jennifer Sokoloski  
**PAST PRESIDENT** Mario Motta  
**1ST VICE PRESIDENT** Jim Bedient  
**2ND VICE PRESIDENT** Kristine M. Larsen  
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**NEWSLETTER**

**EDITOR** Elizabeth O. Waagen  
**PRODUCTION EDITOR** Michael Saladyga  
**DEVELOPMENT** Mike Simonsen

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@aaavo.org](mailto:eowaagen@aaavo.org). Photos in this issue courtesy of R. Kolman, B. Mason, K. Paxson, M. Thompson, and M. 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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Although Council has, of course, always understood these responsibilities, we are now setting up more effective standing committees and modes of communication (such as telecons between the semi-annual in-person Council meetings) to ensure that we fulfill these responsibilities regularly and reliably.

And now, for those of you whom I haven't yet met, here is a bit about myself. As a professional research scientist in the Columbia Astrophysics Lab at Columbia University in New York, my scientific interests include: accretion and jets; stellar explosions, especially novae; and supernovae used in cosmology. Born near Washington, D.C., I earned my undergraduate degree in physics from MIT and then moved to Japan to "see the world." I came back to the

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## PRESIDENT'S MESSAGE CONTINUED...

U.S. for graduate school and was awarded both my Master's degree and doctorate in physics from the University of California, Berkeley. While studying physics, I co-founded two student organizations for women, and in 2002, I served as a member of the U.S. delegation to the IUPAP (International Union of Pure and Applied Physics) International Conference on Women in Physics at the UNESCO headquarters in Paris. After holding several postdoctoral positions in the U.K. and at the Harvard-Smithsonian Center for Astrophysics, in Cambridge, Massachusetts, and meeting my spouse and having a child, I moved with my family to the Upper West Side of Manhattan.

Like so many of us, my first personal contact with the AAVSO came through Janet Mattei. Janet thrilled me when I was a graduate student by assuring me that people were interested in my work on the symbiotic star Z Andromedae—a favorite of mine to this day. This conversation with Janet drove home to me the importance of being part of a research community. In fact, those of you that have submitted observations of novae or symbiotic stars are part of my research community, since I could not do my work without the light curves of novae and symbiotic stars provided by the AAVSO. As one example, for our recent discovery of a light echo around the recurrent nova T Pyx, which will be featured in

the book *Hubble Space Telescope Science Year in Review*, I compared the AAVSO light curves of T Pyx to the crude HST light curves of several clumps in the nova shell surrounding T Pyx that HST can spatially resolve. This comparison allowed my co-authors and me to determine the time it took for photons from the erupting white dwarf to travel to the surrounding clumps. Because the speed of light is constant, the time for the light from the white dwarf to reach the clumps in the shell revealed the geometry of the nova shell and the distance to T Pyx. I also regularly use AAVSO light curves of erupting novae and symbiotic stars to plan radio and X-ray observations.

Since joining Council in 2009, I have been just as inspired by the experience of working with other members of the amazing AAVSO community on Council as I originally was by the scientific cooperation between professional and amateur astronomers. In closing, I'd like to thank Mario Motta for his dedicated and good-natured service as President. While striving to enable Council to govern well, I will hold with me his vision of the AAVSO as a place where one can enjoy the beauty and peace of the night sky along with the excitement of scientific discovery. ★

*Ed. note: the Spanish language version of Jenó's message can be found on page 13.*

## UPCOMING MEETINGS

The AAVSO's 2014 Spring Meeting will be held jointly with The Society for Astronomical Sciences (SAS) and the Center for Backyard Astrophysics (CBA). The meeting will take place in Ontario, California, on Thursday, June 12, through Saturday, June 14, 2014. All events will be held at the recently renovated Ontario Airport Hotel. As its name suggests, the hotel is conveniently located near the airport, and the property does provide free shuttle service. Registration will be handled through SAS and information will be posted on the AAVSO web site as it becomes available.

For more details on the venue, please see the special edition of SAS Newsletter Vol. 11. ([http://www.socastrosci.org/images/SAS\\_Extra\\_2013Sept18.pdf](http://www.socastrosci.org/images/SAS_Extra_2013Sept18.pdf)).

2014 will be Arne Henden's last full year as Director of the AAVSO (he will be retiring in early 2015). We hope that many of you will attend and help to make his last Spring meeting as Director a special one.

We look forward to welcoming you to this joint meeting of AAVSO, SAS, and CBA! ★

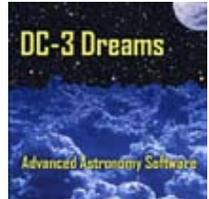
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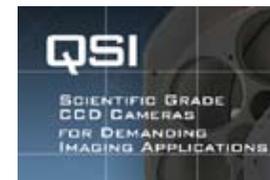
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## THANK YOU FOR YOUR SUPPORT IN 2013

**MIKE SIMONSEN (SXN), AAVSO HQ,  
MEMBERSHIP DIRECTOR/DEVELOPMENT OFFICER**

**AAVSO** members and supporters donated over \$135,000 in calendar year 2013, mostly in the form of sustaining dues and donations of \$150 or less. I would like to take this opportunity to tell you about some of the magic we spun from your gold.

Most donations come in the form of unrestricted funds. This simply means the donor has not specified a use for the money and is leaving the decision how to best use it up to the AAVSO. These dollars go into *The General Fund*, an unrestricted fund that supports the general operations of the Association. We pay the heat and light bill, maintain the website, publications, and programs, and pay staff salaries and benefits.

*The Janet A. Mattei Research Fellowship Program* enables a visiting scientist, postdoctoral researcher, or student to perform research at AAVSO Headquarters with the goal of disseminating the results throughout the astronomical community.

This year, Ulisse Munari stayed at headquarters for six weeks as a Janet Mattei Fellow, working with Arne on an internal white paper for the HERMES consortium on using APASS as an input catalog, transformation coefficients for the first APASS paper (in preparation), and sections of the recently submitted APASS NSF proposal. Publications from this collaboration also include 2014NewA...27....1M, "APASS BVgri search for and characterization of RR Lyr variables candidate members of the Aquarius halo stream," by Munari, Henden, and Frigo.

*The Margaret Mayall Assistantship Fund* helps finance a summer student at AAVSO Headquarters who works on variable star-related projects and research while learning about the AAVSO and variable stars in general. Only the accumulated interest and not the principal may be used. When you make a donation to this fund it goes to the principal, which in theory, should continue to grow indefinitely.

This year's Mayall Assistants were Shouvik Battacharya from the University of Minnesota, who helped Arne process some of the APASS data in preparation for data release 8, and Anisha Sharma from Bennington College in Vermont, who helped process AAVSONet data and work on an archival nova project.

*The Member Sponsorship Fund* pays the membership dues for those active variable star observers who want to become members of the Association but

cannot afford the dues. In some cases it is because the observer lives in a country where they are unable to send money to the USA, for example, Iran. Currently, there are 19 sponsored members worldwide. On behalf of these deserving individuals, thank you for your support.

*The Solar Fund* helps to pay the staff costs of running the section, publishing the *Solar Bulletin* and travel expenses for visiting solar researchers. This year the AAVSO Solar section and AAVSO headquarters hosted special guest Leif Svalgaard of Stanford University/Solar Dynamics Observatory. Leif visited Cambridge 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. This is important work that could not be done any other way anywhere else.

*The AAVSO Building Fund* is dedicated to replenishing the Endowment Fund for the cost of purchasing the new headquarters building, to provide funds to refurbish the building, and to cover other costs incurred with the purchase. This is a favorite "bricks and mortar" fund for many of our members, some of whom give on a monthly basis. Since purchasing the building we have refurbished and updated the offices, Director's residence, added a visitor suite, dedicated the archives, renovated and established the conference center, landscaped the premises, and had the parking lot resurfaced. Our headquarters building should remain a valuable asset for many years to come.

Some donors prefer their money goes into *The Endowment Fund*. This is a professionally managed fund, invested for the perpetuity of the AAVSO. The Council strives to operate the organization by using only the interest from this fund, leaving the principle to grow over time.

*The AAVSONet Fund* pays for refurbishment and maintenance of telescopes, cameras, mounts, computers, software, and hardware required to operate the robotic telescope network.

Occasionally, the Director asks me to raise funds for specific projects or needs. This year we needed additional funding for AAVSONet. We needed new computers, filters, and other hardware upgrades. I made personal requests to a short list of donors and we received twice the amount we asked for in a matter of days. Around that same time Arne asked me to raise funds to pay for the annual cost of serving VPHOT on the Amazon cloud. Again, within days of my asking previous donors for assistance we had fully funded another year of cloud costs and made a start on next year's expense.

I can't tell you how proud I am to belong to an organization made up of people who value and support what we do and are willing to open their hearts and pocketbooks to see the AAVSO prosper and grow. I have no doubt 2014 will be an even better year. Thank you. ★



## SEARCH FOR NEW AAVSO DIRECTOR UNDERWAY!

**KEVIN B. MARVEL, AAVSO DIRECTOR SEARCH COMMITTEE CHAIR AND EXECUTIVE DIRECTOR,  
AMERICAN ASTRONOMICAL SOCIETY**

*Originally posted on the AAVSO website; reprinted by permission of the author*

**Update on Search: October 2013**—AAVSO meetings always invigorate me and the recent gathering [the Annual Meeting in Woburn, Massachusetts] was no exception. Listening to talks, exchanging ideas, tips and tricks, and the joy of observing at coffee breaks and meals was enhanced by a great banquet with a first-ever trivia contest. Sadly, my table didn't even come in the top three, but it was fun to try answering questions drawn from the long history of the AAVSO and its active members.

I presented a short report to the membership about the search for our new director and I wanted to make sure that all members, especially those who could not attend the meeting, are informed about where we stand and what our next steps will be.

At the close of the application period on October 1, we have in hand twelve (12) applications from excellent candidates. Two women and ten men have applied for this important position and it is the search committee's task to present a ranked short list of finalists to the Council for selection of our next director at its March 2014 meeting.

To accomplish this, the search committee will be holding a teleconference to establish a rubric of skills necessary to fulfill the job description approved by the Council and shared with the applicants in the position announcements. This process, when done properly and utilized properly in the selection process, helps reduce the impact of bias, both conscious and unconscious in the selection process; a critical concern for me personally and for our committee.

After we individually consider the applicants and rate their skills in the pre-determined areas based on their initial application, we will then have another phone conference to discuss the overall rankings and decide how to proceed. It is likely we will down-select at that time to a "long" list of candidates (which could include all applicants, or a subset), who will then be phone interviewed. Prior to the phone interview we will review our phone interview process and proper questioning etiquette. After the phone interviews, we will score the applicant's performance against our skill matrix and go through a down-select process after discussion to a "short" list of candidates.

We anticipate interviewing the "short" list candidates at AAVSO HQ in late January or early February 2014, incorporating staff input following meetings between the candidates and the AAVSO staff. Shortly after these interview dates, we will provide to Council a report detailing our process and the final rank-ordered list of candidates for their consideration and recruitment efforts.

In the meantime, the Council is establishing internal procedures for the final selection process including voting considerations for ties, etc. I am happy they have undertaken this step and they are doing a wonderful job getting prepared for the final steps of the process.

In short, the hard phase, phase two, of the recruitment of our new Director is under way and we all look forward to doing our best on behalf of you the AAVSO members, the AAVSO itself and the broader community it serves.

**Original Post: July 2013**—AAVSO Director Arne Henden informed the AAVSO Council earlier this year that he intends to retire from service (<http://www.aavso.org/message-aavso-director-arne-henden>) in early 2015. The AAVSO has greatly benefitted from his dedicated and insightful service and all members should wish him well in his retirement, although it is still more than a year away. Given his passion for astronomy and variable star observing in particular, we are all sure he will be interacting with us for years to come and I for one will continue using his excellent book on photometry, which I have found invaluable as a radio astronomer (my photons are a lot lower energy than the ones AAVSO observers gather).

President Motta formed a search committee in early spring with the intention of getting a search process started quickly, thus leaving plenty of time to conclude an open and inclusive search for the next AAVSO Director. Having served as the chair of the last search committee that identified Arne from among a highly qualified pool of candidates, when Mario asked me to serve again, I happily agreed. We learned some valuable lessons from the last search and we are applying that knowledge to this search.

So who the heck am I? Well, first and foremost, I am passionate about astronomy in all its forms. I love science and I love engaged scientific observation and I share this with all AAVSO members. What we do together is fun, exciting, and, most importantly, of great scientific value. I came to admire and cherish the AAVSO during my dissertation research and my regular interaction with then Director Janet Mattei, who spoke with me last by phone just a few weeks before she passed away. I became a member, have served on the Council, and regularly support the organization in any way I can, both personally and in my role as Executive Officer of the American Astronomical Society, although my duties and responsibilities often keep me from enjoying pure observing as I used to, and I stay engaged to the best extent possible. For example, I managed to squeak in a trip to Hawaii for the Venus transit, which was just spectacular (despite the clouds moving through for the middle two hours of the transit...) and to the annular eclipse last summer in Nevada, where I watched it with two good friends on top of a 9,000 foot peak...talk about a good western horizon!

When Janet passed away, we had to undertake a fairly rapid search, as the AAVSO was not ready for a sudden leadership transition and had no succession plan in place. Schedules were tight and the entire staff, Council, and search committee had to work quickly to make progress. This is not the case this time around, as Arne has provided plenty of warning of his retirement and Mario took early steps to get a new process initiated.

Since the committee formed, we have had two teleconferences and some interaction by email. We have agreed upon some basic operating rules for how we will undertake the search, created a job description and duties document for the Director position with full input from the current AAVSO Council and discussed other issues related to the search. Given the timelines developed, we placed a job ad in the AAS Job Register as soon as possible, primarily as the position is slightly off-schedule for the normal faculty hiring process. We thought about advertising the position in the Chronicle of Higher Education and other locations, but costs were prohibitive and the pool of possible candidates likely far smaller.

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## DIRECTOR SEARCH CONTINUED...

Along with the publication of this article, we are also listing the job description (<http://www.aavso.org/job-description-aavso-director>) and other information on the AAVSO website, which formally represents the start of our search process. Applications will be accepted until the end of September.

The search committee (listed on the AAVSO search committee web page, <http://www.aavso.org/search-committee-members>) understands the AAVSO and has more than 100 years of combined experience interacting with, participating with, governing, advising, and supporting the AAVSO. Having spoken with all of them and interacted with them over these past several months, I know we will be able to fulfill our charge, which is to provide to the Council a prioritized list of candidates from the pool of applicants, along with some discussion as to how we arrived at this prioritization. This list will allow the Council to make their selection and attempt to hire the next Director.

I want to make it clear to all that we are looking for the best possible leader for the AAVSO regardless of educational or experiential background. The job description is written specifically to include individuals without a Ph.D. It is perfectly reasonable that an individual without a graduate degree can run the AAVSO. However, it is equally true that an individual with a Ph.D., well connected to the professional community, will have a greater ability to bring the scientific value of the data gathered by the AAVSO observers forward. This, however, is not the only or exclusive criterion the search committee will use to review the candidates.

I liken the above situation to my initial situation applying to work at the AAS. The position I applied for required experience in public policy. It was abundantly clear that if someone had applied for the position (which was entitled ‘Associate Director for Public Policy and Employment Policy Programs’...talk about needing a fold-out business card...!), who had worked extensively on Capitol Hill or at one of the funding agencies or with the White House, I would not stand as good a chance as a candidate, because I didn’t have that experience. Luckily for me, the search committee then—as we are now—was looking for the best possible person for the position from the applicant pool and took into account my other experience and abilities. I managed to beat out some applicants who had more public policy experience in Washington, just as the right candidate for the AAVSO Director position could beat out someone with a Ph.D. in astronomy or a closely related field.

The search committee is categorically committed to an open search process without a pre-defined candidate in mind. We have all agreed on this point and we are proceeding with the search following this philosophy. We are seeking the best overall leader for the AAVSO as it transitions into the future. The next five to ten years will be a particularly interesting and challenging time to lead the AAVSO, making this search notable and important.

I welcome input from members on the search and especially need your help identifying and encouraging qualified people to apply for the position. Please note that, following our guidelines, I will share all communications with all members of the Search Committee. Also recognize that if I get large numbers of communications, I may not be able to write back to you individually, or immediately recognize that I received your input, but I will eventually, so have some patience... I have a day job too...

We will all do our best on your behalf and on behalf of 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 and variable stars at the following venues:

October 9, 2013—**Gary Poyner** (PYG, Birmingham, England) gave a presentation on “Historical Novae” to the Carolian Astronomical Society in Kidderminster, Worcestershire, England; the number of attendees exceeded 70. (This was his third visit to this group, and one of about 20 astronomical talks he gave in 2013.)

December 11, 2013—**John Percy** (Toronto, Ontario, Canada) gave a presentation to the Durham Region Astronomical Association (east of Toronto) on “Variable Stars: Action in the Sky.” It turned out to be timely, because Michael Cook, the president, had recently visited HQ and taken Arne’s CCD workshop.

December 12, 2013—**Costantino Sigismondi** (SGQ, Rome, Italy) gave a presentation for the public on “A Estrela Nova do Centauro 2013: uma explosão estelar visível a olho nu nestes dias” (“A New Star in Centaurus 2013: A stellar explosion visible these days with the naked eye”), on the importance of naked-eye observations, and on “citizen astronomy,” and including an example of sending data to AAVSO in real time. His talk was part of a week-long Astronomy Day celebration at the Museu de Astronomia e Ciências Afins (MAST, Museum of Astronomy and Related Sciences) in Rio de Janeiro, Brazil. Costantino is currently a Visiting Researcher at the National Observatory and the Brazilian Center for Physics Research in Rio de Janeiro. The Astronomy celebrations were held in December to coincide with the birthday of Dom Pedro II, the second emperor of Brazil, who was a very strong advocate for the sciences, especially astronomy.

January 2014—**Ron Zissell** (ZRE, South Hadley, Massachusetts) reports that for more than the past 20 years during January Interterm (between semesters, when short non-credit courses or programs are offered in a vast array of subjects) Mount Holyoke College has offered a course on astronomy which he teaches titled “The Sky for a Winter Night.” Ron says, “I cover the names and stories about the constellations and their stars. In this course I frequently mention the AAVSO as an organization that amateurs can join and contribute to or use as a reference for such things as JD calendar. I used the calendar to calculate how many days I have lived and suggest that they can do the same by visiting the website. 36 signed up for the course. 14 showed up for the first session. The 5th session will probably have 4 or 5. Only the diehard astro fans keep at it. One student wrote on her Bio sheet that she had taken the course in her first year and is doing it again.”

**Gary Poyner** has the following talks scheduled for 2014:

- January 31, 2014—Bristol Astronomical Society, “Historical Novae”
- February 20, 2014—Newcastle Astronomical Society, “Introduction to Variable Star Observing”
- March 4, 2014—Wolverhampton Astronomical Society, “Historical Novae”
- April 28, 2014—Bradford Astronomical Society, “Historical Novae”
- September 18, 2014—Mexborough Astronomical Society, “Introduction to Variable Star Observing”

Thank you, speakers!

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

## A PELTIER-FEST AT THE 2013 ANNUAL MEETING

ROGER KOLMAN (KRS), GLEN ELLYN, ILLINOIS

This is the thirty-third year of the Leslie C. Peltier Award of the Astronomical League.

Quoting from the League's website:

"The heart of amateur astronomy is observing. We can read all we want about astronomical phenomena, but the real joy in astronomy is going out under the night sky and observing the objects about which we have read. But while most of us are casual observers of the sky, looking at the same few objects over and over, a few amateur astronomers develop their observing skills to the ultimate degree. They then use these skills to make careful observations of the sky and record them for scientific analysis.

"Whether the observation is done with a photometer, CCD, spectroscope, or just the human eye, the ability to find an object and record scientifically useful detail is not a common trait. To recognize the amateur astronomer who is not only able to do this, but has contributed their observations to an ongoing observing program, the Astronomical League presents the Leslie C. Peltier Award. The Peltier Award was created in 1980 and the first was awarded in 1981.

"The award is named after Leslie C. Peltier, the Delphos, Ohio, amateur astronomer who Harlow Shapley, one of the League's founders, referred to as 'the world's greatest nonprofessional astronomer.' Born January 2, 1900, he discovered twelve new comets and four novae. But his real contribution was the over 132,000 variable star observations he made in his sixty-two year observing career. He also wrote many articles on astronomy and penned four books. To ease his observing, he built an enclosed 'merry-go-round' observatory. He died in 1980.

"It is in his memory, and to celebrate his life-long love of the heavens, that the Astronomical League presents the Leslie C. Peltier Award."

The purpose of the award is to honor an amateur astronomer who has contributed observations of lasting significance. Through the years, there has been a rich history of AAVSO recipients—25 of the 30 recipients have been AAVSO members/observers (no award was presented in 1987, 1990, or 1994).



*John Bortle, the 2013 Peltier Award winner, has been observing variable stars for the AAVSO since 1963*



*Some of the AAVSO members who have won the Astronomical League's Peltier Award, with AL President Carroll Iorg. From left: John Bortle, Gerry Samolyk, Barry Beaman, Richard Berry, Carroll Iorg, Mike Simonsen, Arne Henden, Roger Sinnott, Elizabeth Waagen, and Roger Kolman*

This year, Kevin Paxson prepared an interview with John Bortle (*AAVSO Newsletter*, No. 57, July 2013) chronicling Bortle's achievements. Prior to the submission of the interview to the *Newsletter*, Kevin shared it with me. The Peltier Award Committee was in the process of selecting the 2013 recipient. After reviewing the article, we all asked the question, "How could we have passed John up for so long?" The vote for John was an easy decision.

When we notified John that he would be the 2013 recipient of the award, he was immensely grateful, but he would not be able to travel to Atlanta to accept it. He asked if there was any way he could accept it at the 2013 AAVSO Annual Meeting in Woburn in October.

Carroll Iorg, President of the Astronomical League, very graciously said this would not be a problem. Bortle prepared a video acceptance for the League and AAVSO headquarters prepared for the presentation at the Annual meeting banquet.

In the meantime, Mike Simonsen and Rebecca Turner worked with Arne Henden on the possibility of having a special session honoring individuals with AAVSO connections who have been Peltier Award recipients. Astronomical League officers were invited to participate, and President Carroll Iorg accepted the invitation.

The program was set. The presentation to John Bortle would be made at the end of the Saturday morning session and the afternoon session would begin with papers presented by previous AAVSO recipients of the award. Previous recipients scheduled to give presentations on their Peltier Award included Roger Sinnott (general astronomy, atlas preparation), Richard Berry (CCD and telescopic development), Elizabeth Waagen (variable stars), Gerry Samolyk (variable stars), Arne Henden (variable stars), and Mike Simonsen (variable stars).



*John Bortle's Peltier Award and "official" wine*

While touring the Northeastern States, my daughter, Kim, found a wine called Peltier Station. This was to be used in our toast to the 2013 recipient, John Bortle, and to the other recipients present at the meeting. At the end of the morning session, John Bortle was

CONTINUED ON NEXT PAGE

# NEWS AND ANNOUNCEMENTS

## PELTIER-FEST CONTINUED...

presented with the Peltier Award by Carroll Iorg and Arne Henden. A toast was given to all of the recipients.

After lunch, Arne gave a short talk regarding his award. Mike spoke about the importance of Peltier and his contributions to the AAVSO. Elizabeth spoke about the importance of the staff as part of the AAVSO family. Richard Berry spoke about his background and its connection to the AAVSO.

It was a great session connecting the AAVSO and the Astronomical League. As a member of both organizations I have looked for a connection between them, and I see this as a very positive start.



*Scott Roberts, sponsor of the Astronomical League's Peltier Award*

Scott Roberts has been a long time supporter of the award from his years at Meade Instruments to his current position as CEO of Explore Scientific. We thank him for his financial and personal support. ★

## SCENES FROM THE 2013 ANNUAL MEETING



*A question of chicken and egg? Mike Simonsen, Sebastian Otero, Simochick, and a hearty breakfast.*



*Meeting attendees*



*John Martin and David Turner*



*Pierre de Ponthière, Bob Stine, and Donn Starkey*



*Arne Henden, Carroll Iorg, and John Bortle*



*AAVSO Council members*

## PROJECT EXOPLANET: THE ASV JUNIOR SECTION EXPLORES A STRANGE NEW WORLD

MIKE THOMPSON (ASV01), CHRIS RUDGE, AND VISURA LOKUGE DON (ASV02), MELBOURNE, AUSTRALIA

The Astronomical Society of Victoria (ASV) (<http://asv.org.au>) is based in Melbourne, Australia. It was originally founded in 1922 and is the largest such organization in the southern hemisphere. The society attracts people with a wide range of astronomical interests, ages, abilities, and experience, and engages in numerous outreach activities to bring astronomy to the people.



The ASV Junior Section is a group of 25 “Juniors” aged 6 to 16 who are passionate about all things related to astronomy. They really keep us on our toes trying to present meaningful, relevant material in a manner that will appeal to the range of ages, skill levels, and abilities in the group. Several members of the group voiced the desire to do some “real science” with meaningful results. This came at a time when iTelescope had awarded us some research time on their international network of large telescopes. We wanted to put this time to good use with projects that could be continued with our own telescopes. From a shortlist of projects, the Juniors voted for Project Exoplanet, which would attempt to capture the light curve of a transiting exoplanet. Looking at an exoplanet was just too exciting to resist!

This is a challenging project as it requires careful research, planning, and preparation to ensure that imaging runs capture the transit precisely, and then, once the data have been collected, to process the data properly to obtain an accurate result. If successful, we will have observed a planet in another solar system.

There are almost a thousand stars known to have exoplanets, so we first had to select a suitable target. The group researched a list of the confirmed exoplanets and removed any that did not transit their parent Star when viewed from Earth, which left us with around 200 exoplanets to choose from. We then used the following criteria to narrow our choice of exoplanet: a) has a fast orbital speed, so we get a lot of opportunities to observe it, b) large enough to produce a significant change in magnitude, and c) readily visible in the Southern Hemisphere. This reduced our list to a much more manageable 20 stars, from which we picked out the top four:

Through these steps we learned about the number and types of exoplanets that have been discovered and the ongoing projects that are discovering more exoplanets, and we tried out some of the tools and techniques used in photometry such as CCD imaging, Plate Solving images, and using the AAVSO's VPHOT tool to analyze images and report results.

We produced a series of transit predictions using tools at the Exoplanet Transit Database (<http://var2.astro.cz/ETD/>) and confirmed these using a second transit prediction tool from Swarthmore College (<http://astro.swarthmore.edu/transits.cgi>), which gave us four chances to capture our data before our ASV Juniors' meeting in October.



The ASV Juniors

### VPhot

Available images

230 images | [VLS Search](#) | [Time Series](#) | [Transform](#) | [Stack](#) | [Download](#) | [Share](#) | [Rename](#) | [Update WCS](#) | [Delete](#) | [Help](#)

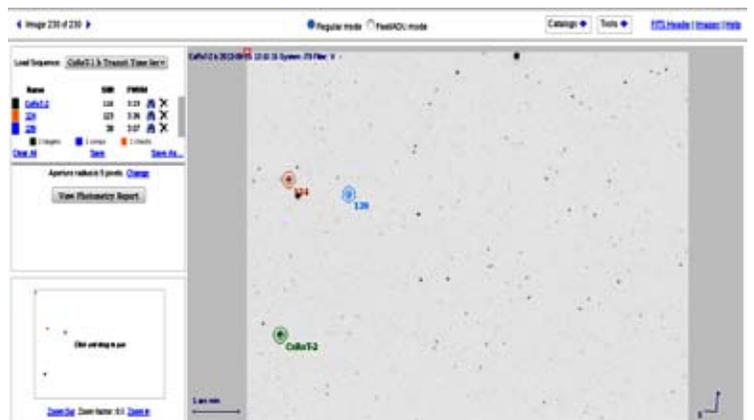
Select all later measurements | Select all earlier measurements | Click the checkbox inside the column header to check/uncheck all images

View Images	Uploaded	Filter	Object	Date/Time	Altitude	Exposure	Filter	WCS	Cal	Rep
230	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 13:10:16	3:40	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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224	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 13:04:59	2:00	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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222	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 13:03:10	2:53	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
221	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 13:02:16	2:18	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
220	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 13:01:23	2:04	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
219	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 13:00:29	2:19	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
218	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 12:59:33	2:17	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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216	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 12:57:51	2:15	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
215	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 12:57:02	2:14	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
214	<input type="checkbox"/>	<input type="checkbox"/>	CoRoT1.b	2013-06-26 12:56:15	2:13	30 s	V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VPHOT image list download from iTelescope

The scope that we chose to use is iTelescope #9 at the Siding Spring Observatory in New South Wales, Australia. The scope is a 12.5-inch Ritchey-Chrétien operating at a focal ratio of f/7.4 and the camera is an SBIG ST8 XME with a field of view of 13.6×20.4 arc-mins. Both are sitting on a Paramount PME mount.

We configured STELLARIUM to allow us to simulate the view of our target star-field from iTelescope #9 and ran simulations of each predicted transit to confirm that the position and phase of the Moon would not affect our imaging.



Setting up comparison stars in VPHOT

CONTINUED ON NEXT PAGE

## ASV JUNIORS CONTINUED...

Our first attempt, on Wednesday, September 18, was looking good with a clear sky forecast, but we were thwarted by gusty winds which forced the observatory to close. The next attempt was on the night of the 25th and this time almost everything seemed to go well, but all did not go completely to plan, with our imaging run starting a little late and the field of view drifting more than we had hoped for. However, we persevered and followed the instructions in the VPHOT video tutorials to change our comparison stars so that we had a consistent set throughout the 3-hour imaging run despite the drift of the imaging field.

VPHOT crunched the numbers for us and produced the light curve (*below left*), which the ASV Juniors interpreted at our October meeting and generated a “best fit” curve (*below right*) that accurately matched the predicted mid-point and end-point of the transit. The start of the transit had been missed due to our timing fault, but this meant that we got a distorted curve that we could explain. I think we’d all have been a bit suspicious if we had captured a perfect light curve on our first attempt!

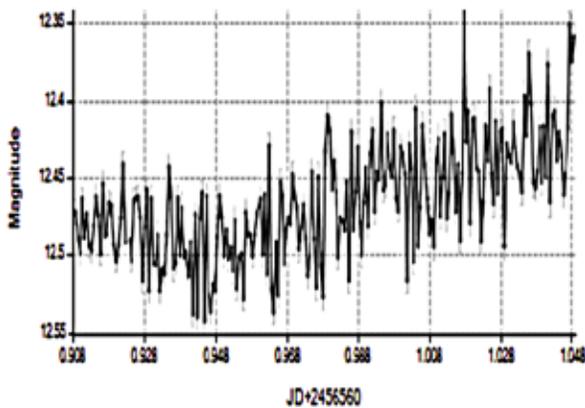
We now know more about the state of exoplanet research and have collected a lot of information about the CoRoT-2 star system. We know that the

magnitude-12 star CoRoT-2 is 930 light years away from Earth in the constellation Aquila and is quite similar to our own Sun, but the planet CoRoT-2 b is very different from Earth. It is 3.31 Mj (1 Mj is the mass of Jupiter) and orbits its parent Star at just 0.0281 AU (1 AU is the average distance from the Earth to the Sun) and completes an orbit of its star in just 1.74 Earth days.

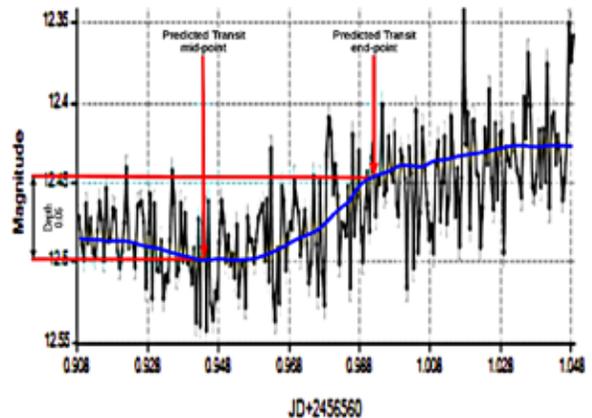
We have also learnt about the scientific process of gathering data, processing them to generate results, and interpreting the results to come to a conclusion.

But most importantly, we have learnt that we can set ourselves a scientific goal and achieve it, using tools and skills available within the group, with help and encouragement from organisations like AAVSO and iTelescope.

A number of the Juniors have created their own iTelescope accounts and are currently exploring the art of astrophotography, sharing their images with the rest of the group. A variable star search has also started with Visura Lokuge Don (ASV02) performing follow-up observations of the star-field that we used for Project Exoplanet to see if we can find any new variable stars in the field. ★



Light Curve plot from VPHOT



ASV Juniors' Interpretation

## AAVSOERS IN COMET ISON VIDEO

Chris Stephan (SET, Wooster, Ohio)—thanks, Chris!—sends this link to a YouTube NASA video on Comet ISON from September 2013. In the video, numerous amateur astronomers worldwide are mentioned and their comet images shown, and AAVSO’s John Bortle (BRJ, Stormville, New York) even has his own portrait displayed as he is quoted. Also among the amateurs are Roy and Jodi McCoullough of the Mahoning Valley Astronomical Society, an organization that is an AAVSO member and of which Chris is an honorary member.

Comet ISON may be history now but the video still makes interesting watching, especially in the way it highlights the importance of amateur astronomer contributions to science. Have a look at: <http://www.youtube.com/watch?v=HQHzxnkLoVs> ★

## SCIENCE SUMMARY: AAVSO IN PRINT

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

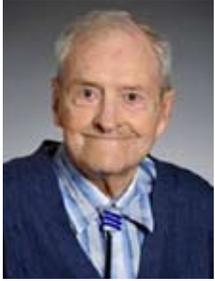
**AAVSO** data are constantly being used by researchers around the world in presentations and publications. Below is a listing of some of the publications that appeared 2013 September 28 through December 31 on the arXiv.org preprint server and used AAVSO data and/or acknowledged the AAVSO. To access these articles, type the preprint number into the “Search or Article-id” box at <http://www.arXiv.org>

- M. Gromadzki, J. Mikolajewska, I. Soszynski, “Light curves of symbiotic stars in massive photometric surveys II: S and D'-type systems”, (arXiv:1312.6063) [Dec 20, 2013]
- Ulisse Munari, Arne Henden, “Photometry of the progenitor of Nova Del 2013 (V339 Del) and calibration of a deep BVRI photometric”, (arXiv:1312.5890) [Dec 20, 2013]
- J. Smak, “Fifty Years of TT Arietis”, (arXiv:1312.5878) [Dec 20, 2013]
- T. D. Russell, R. Soria, C. Motch et al., “The face-on disk of MAXI J1836-194”, (arXiv:1312.5821) [Dec 20, 2013]
- Daniel L. Holdsworth, M. T. Rushton, D. Bewsher et al., “STEREO/HI and Optical Observations of the Classical Nova V5583 Sagittarii”, (arXiv:1312.5235) [Dec 18, 2013]
- Polina Zemko, Marina Orio, “X-ray observations of VY Scl type nova-like binaries in the high and low state”, (arXiv:1312.5122) [Dec 18, 2013]
- Costantino Sigismondi, “Nova Centauri 2013 broad maximum from visual observations calibrated with same altitude stars”, (arXiv:1312.4848) [Dec 17, 2013]
- K. Bakowska, A. Olech, A. Rutkowski et al., “HT Cas—eclipsing dwarf nova during its superoutburst in 2010”, (arXiv:1312.5211) [Dec 17, 2013]
- V. P. Goranskij, “Optical Counterparts of the X-ray Sources Hercules X-1 and Cygnus X-2: Genuine and Fake”, (arXiv:1311.7044) [Nov 27, 2013]
- D. Takei, M. Tsujimoto, J. J. Drake et al., “X-ray Development of the Classical Nova V2672 Ophiuchi with Suzaku”, (arXiv:1311.5969) [Nov 23, 2013]
- S. Kiehlmann, T. Savolainen, S. G. Jorstad et al., “Analyzing polarization swings in 3C 279”, (arXiv:1311.3126) [Nov 13, 2013]
- Rhaana Starling, C. Done, C. Jin et al., “The story of Seyfert galaxy RE J2248-511: from intriguingly ultrasoft to unremarkably average”, (arXiv:1311.3075) [Nov 13, 2013]
- Benjamin M. Tofflemire, Marina Orio, Kim L. Page et al., “X-Ray Grating Observations of Recurrent Nova T Pyxidis During The 2011 Outburst”, (arXiv:1311.2893) [Nov 12, 2013]
- U. Munari, A. Henden, S. Dallaporta et al., “Photometric evolution of Nova Del 2013 (V339 Del) during the optically thick phase”, (arXiv:1311.2788) [Nov 12, 2013]
- Paula Szkody, Meagan Albright, Albert P. Linnell et al., “A Study of the Unusual Z Cam Systems IW Andromedae and V513 Cassiopeiae”, (arXiv:1311.1557) [Nov 7, 2013]
- Keiichi Ohnaka, “High spectral resolution spectroscopy of the SiO fundamental lines in red giants and red supergiants with VLT/VISIR”, (arXiv:1310.7972) [Oct 29, 2013]
- G. Zhou, D. Bayliss, J.D. Hartman et al., “The Mass-Radius Relationship for Very Low Mass Stars: Four New Discoveries from the HATSouth Survey”, (arXiv:1310.7591) [Oct 28, 2013]
- Taichi Kato, Franz-Josef Hamsch, Hiroyuki Maehara et al., “Survey of Period Variations of Superhumps in SU UMa-Type Dwarf Novae. V: The Fifth Year (2012–2013)”, (arXiv:1310.7069) [Oct 26, 2013]
- Christopher B. Johnson, Bradley E. Schaefer, Peter Kroll et al., “Nova Aquilae 1918 (V603 Aql) Faded by 0.44 mag/century from 1938–2013”, (arXiv:1310.6802) [Oct 25, 2013]
- Mariko Kato, Izumi Hachisu, Martin Henze, “Novae in Globular Clusters”, (arXiv:1310.6579) [Oct 24, 2013]
- John R. Percy and Viraja C. Khatu, “Amplitude Variations in Pulsating Red Supergiants”, (arXiv:1310.6306) [Oct 23, 2013]
- Sarah J. Schmidt, Jose L. Prieto, K. Z. Stanek et al., “Characterizing a Dramatic  $\Delta V \sim 9$  Flare on an Ultracool Dwarf Found by the ASAS-SN Survey”, (arXiv:1310.4515) [Oct 16, 2013]
- A. Lèbre, M. Aurière, N. Fabas et al., “Search for Surface Magnetic Fields in Mira Stars. First Detection in chi Cyg”, (arXiv:1310.4379) [Oct 16, 2013]
- R. K. Das, D. P. K. Banerjee, N. M. Ashok and Soumen Mondal, “Near-infrared spectroscopic and photometric evolution of Nova V476 Scuti—a nova that formed optically thin dust”, (arXiv:1310.4200) [Oct 15, 2013]
- Pierre de Ponthière, Michel Bonnardeau, Franz-Joseph Hamsch et al., “Multi-Longitude Observation Campaign of KV Cncrri: an RR Lyrae star with irregular Blazhko modulations”, (arXiv:1310.4190) [Oct 15, 2013]
- Costantino Sigismondi, “Considerations on the light curve of Nova Delphini 2013”, (arXiv:1310.2763) [Oct 10, 2013]
- Vladislava I. Marsakova, Ivan L. Andronov, “Miras or SRA'S—the Transient Type Variables”, (arXiv:1310.2412) [Oct 9, 2013]
- I. Karovicova, M. Wittkowski, K. Ohnaka et al., “New insights into the dust formation of oxygen-rich AGB stars”, (arXiv:1310.1924) [Oct 7, 2013]
- Wayne Osborn, “Man Versus Machine: Eye Estimates in the Age of Digital Imaging”, (arXiv:1310.0540) [Oct 2, 2013]
- Horace A. Smith, “Period Changes of Mira Variables, RR Lyrae Stars, and Type II Cepheids”, (arXiv:1310.0533) [Oct 2, 2013]
- F. J. Virgili, C. G. Mundell, V. Palshin et al., “GRB 091024A and the nature of ultra-long gamma-ray bursts”, (arXiv:1310.0313) [Oct 1, 2013]
- G. J. Madsen, B. M. Gaensler, “A Precision Multi-Band Two-Epoch Photometric Catalog of 44 Million Sources in the Northern Sky from Combination of the USNO-B and Sloan Digital Sky Survey Catalogs”, (arXiv:1309.6322) [Sep 24, 2013]

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. ★

## IN MEMORIAM

MEMBERS, OBSERVERS, COLLEAGUES,  
AND FRIENDS OF THE AAVSO



*Truman Kohman*

**TRUMAN P. KOHMAN** (KO, Mt. Lebanon, Pennsylvania), AAVSO member and observer 1931–1937, died April 28, 2010, at the age of 94. Truman contributed 2,772 variable star observations to the AAVSO International Database from June 1931

through February 1937. The AAVSO's youngest member and observer when he was allowed to join at age 15 although he was technically too young to become a member, he stopped observing when he became an undergraduate at Harvard University to pursue a career in chemistry, following in his father's chemist footsteps. He was active in astronomy from the age of 13, buying his first telescope at 16 and his last at 93. Asteroids, comets, lunar and solar eclipses (which he chased) all fascinated him; he frequently held star parties and gave public lectures on astronomy. He was a member of the Amateur Astronomers Association of Pittsburgh. His other interests included jazz and classical music and playing the trombone.

In his career, Truman combined chemistry and astronomy as a self-described "astro-geo-nuclear chemist." He worked on the Manhattan Project, then taught chemistry at Carnegie Mellon University for over 30 years, adding teaching an introductory astronomy course for 20 years that overlapped his retirement by almost 10 years. He is credited with helping to discover in 1954 Aluminum-26, a nuclide (a word he coined) important in the analysis of meteorites and other solar system matter. He also analyzed some of the first lunar samples, returned to Earth by the Apollo 11 astronauts. Truman was a pioneer in the field of radiochemistry (chemistry of radioactive materials), and was an expert on gamma-ray sources and their distribution. In 1986 the Carnegie Mellon University observatory was named after him in tribute from his students. Minor planet (4177) Kohman was also named in his honor.

His time with the Manhattan Project and its outcome caused him to be a passionate anti-war peace advocate, dedicated to equal rights and equal justice for all, and an advocate of peaceful uses of nuclear power. We extend our sincere sympathies to Truman's wife Jane, their children and families, and his sister, and to his many friends.



*Hugh Lund*

**HUGH LUND** (LHU, Parkhurst, Johannesburg, South Africa), AAVSO observer 1994–2002, died October 5, 2013, at the age of 83 in a car accident after possibly suffering a stroke. His daughter Audrey (nicknamed Mac) was also killed in the accident.

Hugh contributed 439 observations to the AAVSO International Database from September 1994 through September 2002. AAVSOer and variable star observing legend Danie Overbeek was a good friend and sometimes suggested observing targets for Hugh, who observed a variety of types of variables. Hugh was an early CCD observer and he built all his observing equipment – 12" telescope, computer drive, and CCD camera. In addition to variable star observing, Hugh was an occultation observer, and was also involved in deep-sky imaging, sometimes assisting professional astronomers (including AAVSO Director Dr. Arne Henden and Dr. Amelia Wehlau) who needed data on or images of faint southern deep-sky objects (including a magnitude-18 comet) for their research. He was always willing to help anyone who had questions about telescopes or electronics or CCD photography. Another passion of his was sailing: he built 5 yachts over the years and enjoyed sailing right up until his death. Hugh was gentle, kind, and wise, and the soul of integrity, and daughter Mac was beloved by everyone who knew her. Our sincere condolences go to Hugh's son Richard and family and many friends.

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

## MENSAJE DEL DIRECTOR

ARNE A. HENDEN (HQA)

¡No una sino dos novae a simple vista este año! V339 Del (Nova Del 2013) entró en erupción en agosto y aún sigue firme en magnitud 11 mientras escribo. Fue una gran nova noroesteña, bien ubicada en el cielo nocturno para su observación y alcanzando una magnitud de 4,3 en su pico. Hay decenas de miles de observaciones de ella en la Base de Datos Internacional y seguirán llegando más antes de la conjunción solar. Los espectroscopistas tuvieron su día de gloria, tomando cientos de espectros, y Steve Shore los ha estado guiando con la reducción y el análisis de los espectros de novae.

Luego, a principios de diciembre, V1369 Cen (Nova Cen 2013) erupció para los observadores del Sur. Descubierta por John Seach en Australia, esta nova puede o no haber llegado a su pico en  $V=3,8$ , todavía no lo sabemos con seguridad. Su progenitora tenía una magnitud cercana a 15, por lo cual esta es una erupción de al menos 11 magnitudes. Esta nova se ve a la madrugada, lo que significa que es difícil obtener una cobertura de observaciones superpuestas por ahora, pero va a quedarse con nosotros por varios meses. ¡Espero que todos hayan tenido la oportunidad de mirar alguna de estas dos novae!

¿Se perdieron al ISON? Fueron geniales las imágenes de SOHO mostrando la desgracia de este visitante solar. Vi algunas imágenes maravillosas antes del perihelio y las tomas desde Marte fueron algo inesperado. Sin embargo, a no desesperar, el Cometa Lovejoy todavía está brillante y mostrándose. Salgan a mirar este cometa si está accesible para ustedes.

Hemos llevado a cabo algunos experimentos, tanto con V339 Del como con la candidata a cefeida anómala XZ Cet, para ayudar a los observadores a entender las limitaciones de sus equipos y mejorar su fotometría. Me estoy divirtiendo dándoles consejos; espero que todos los que participan estén aprendiendo cosas útiles.

Vamos a despedirnos de nuestra Asistente Administrativa, Lauren Rosenbaum, a principios de enero. Lauren trabajó con nosotros mientras iba

a la escuela de posgrado y ahora sigue adelante con su carrera real. No puedo pensar en alguien que se haya ajustado tan bien a nuestra organización como Lauren, ¡y la vamos a extrañar! Estamos en el proceso de elegir a su reemplazo, así que cuando eso suceda, sean amables con la nueva persona y déjenla acostumbrarse al trabajo.

Enero también verá el comienzo de construcciones alrededor de HQ. Cambridge está reconstruyendo el sistema de drenaje de tormentas y todas las calles cercanas van a estar destruidas en los próximos dos años. Puede convertirse en un desafío llegar hasta nuestra sede pero bien vale la pena el esfuerzo. Hablando de HQ, hay mucha actividad de fondo que no aparece en los foros o newsletters, pero significa que estamos mejorando nuestro apoyo a los miembros y observadores. Will terminó la programación de la campaña "Adopta-una-Estrella"—¿ya has elegido tu estrella favorita? Sara ha estado trabajando con el nuevo manual de CCD, y trabajando con varios observadores visuales y de CCD para corregir la fotometría que enviaron. Matt completó el trabajo con sus dos becas de NASA/NSF y ha estado mejorando el desarrollo de AAVSONet. Doc se ha ocupado de asuntos con las computadoras y también con los sistemas de apoyo de AAVSONet. Elizabeth ha venido dirigiendo campañas (¿ya observaste SS Cyg y BB Ari, no?), y ella junto a Mike Saladyga han trabajado duro con el Journal y el Newsletter. Rebecca ha sido clave al manejar nuestras becas NSF y está trabajando conmigo en asuntos administrativos. Sebastián me está ayudando con APASS, mientras continúa con su gran trabajo en VSX. Donna sigue viajando por el país, promocionando a Chandra, la AAVSO y las Olimpiadas de Ciencias. Mike Simonsen no sólo habla con cada miembro nuevo y maneja la recolección de fondos sino que también ha estado dando algunos discursos muy divertidos en algunos encuentros en clubes.

Espero que todos hayan tenido la oportunidad de disfrutar las fiestas y sentarse de nuevo y ver los logros del año con una luz positiva. Disfruto escribiendo mi contribución al Reporte Anual en esta época del año porque así revivo los muchos avances que la organización ha hecho, y al mismo tiempo anticipo mejoras que ocurrirán el año que viene. Aun más divertido es lo desconocido: ¿qué nueva nova, cometa o estrella variable aparecerá en el futuro que atraerá nuestra atención? ¡Pura diversión! ★

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

## MENSAJE DEL PRESIDENTE

JENO SOKOLOSKI

A principios de 2011, cuando el Consejo Adecidió la renovación del contrato del Director, un panel externo de expertos revisó el desempeño de Arne como Director. Cuando entregaron su informe, señalaron que las funciones del Director y del Consejo están tan entrelazadas que era difícil criticar uno sin examinar también al otro. Mientras encontraron que el Director lidera la AAVSO efectivamente, concluyeron que el Consejo no estaba gobernando como podría hacerlo. En particular, sugirieron que "El Consejo podría ayudar, en gran medida, a la AAVSO adoptando las prácticas recomendadas para las organizaciones sin fines de lucro".

Los principales objetivos para mi mandato de dos años, como Presidente, son los siguientes: 1) orientar al Consejo a través del continuo proceso que iniciamos en 2011 de la aplicación de las prácticas recomendadas para las organizaciones sin fines de lucro (que describo, en detalle más adelante), 2) ayudar al Consejo a contratar a un nuevo y fantástico director, y 3) ayudar a hacer la transición entre Directores, a principios de 2015, sea la mejor posible. Kevin Marvel, quien encabeza el Comité de Selección, informó sobre el progreso de la búsqueda de un nuevo director en la última reunión de los miembros, en Woburn, MA. El informe del Secretario, Gary Walker, en el Foro de Gobierno, el 16 de octubre de 2013, también contiene información sobre la búsqueda. Recibimos solicitudes de doce excelentes candidatos para el cargo de Director. El Comité de Selección está revisando con mucho cuidado las solicitudes, siguiendo un procedimiento que diseñamos para que sea lo más imparcial posible, de manera que se obtenga la lista de méritos de los mejores candidatos, 4 o más, para entregarla al Consejo. En términos de poner en acción las mejores prácticas para el gobierno de una organización sin fines de lucro, el Consejo está empezando a realizar revisiones anuales, informales y constructivas, del director, del propio Consejo y del grado en que los diversos programas de AAVSO sirven a nuestra misión. Si el Consejo y yo misma podemos lograr mis tres objetivos, junto a nuestras responsabilidades normales, creo que la AAVSO seguirá estando en un excelente camino hacia el futuro.

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## MENSAJE DEL PRESIDENTE CONTINUED...

Así que, ¿cuáles son estas mejores prácticas para el gobierno de una organización sin fines de lucro? BoardSource es una organización muy respetada que ha servido a más de 75.000 líderes de organizaciones sin fines de lucro, se dedica a ayudar a los grupos sin fines de lucro, como la AAVSO ([www.boardsource.org](http://www.boardsource.org)). Según BoardSource, el óptimo gobierno comienza con un plan realista para la realización de las 10 responsabilidades de un consejo de gobierno. Estas responsabilidades son:

- \* Determinar la misión y propósito.
- \* Seleccionar el jefe ejecutivo.
- \* Apoyar y evaluar al jefe ejecutivo.
- \* Asegurar una planificación eficaz.
- \* Supervisar y reforzar los programas y servicios.
- \* Asegurar los recursos financieros adecuados.
- \* Proteger los activos y proporcionar una supervisión financiera adecuada.
- \* Construir un consejo competente.
- \* Asegurar la integridad legal y ética.
- \* Mejorar la imagen pública de la organización.

Aunque el Consejo, por supuesto, ha entendido siempre estas responsabilidades, ahora estamos estableciendo comités permanentes más eficaces y modos de comunicación (tales como teleconferencias entre las reuniones semestrales, en persona, del Consejo) para asegurar que cumplimos con estas responsabilidades con regularidad y de forma fiable.

Y ahora, para aquellos de ustedes que aún no he conocido, he aquí un poco sobre mí. Como científica de investigación profesional en el Laboratorio de Astrofísica Columbia de la Universidad de Columbia, en Nueva York, mis intereses científicos incluyen: acreción y chorros;

explosiones estelares, especialmente las novas y supernovas utilizadas en la cosmología. Nacida cerca de Washington, DC, obtuve mi título de licenciatura en física del MIT y luego me trasladé a Japón para “ver el mundo”. Volví a los EE.UU. para estudios de posgrado y recibí tanto mi maestría y doctorado en física de la Universidad de California, Berkeley. Mientras estudiaba física, cofundé dos organizaciones de estudiantes para mujeres y, en 2002, me desempeñé como miembro de la delegación de EE.UU. En la Conferencia Internacional sobre la Mujer en la Física en la IUPAP (Unión Internacional de Física Pura y Aplicada) en la sede de la UNESCO, en París. Después de desempeñar varios cargos posdoctorales en el Reino Unido y en el Centro Harvard-Smithsoniano para Astrofísica, en Cambridge, Massachusetts, y conocer a mi esposo y tener un hijo, me mudé, con mi familia, a la Upper West Side de Manhattan.

Como muchos de nosotros, mi primer contacto personal con la AAVSO llegó a través de Janet Mattei. Janet me emocionó cuando yo era una estudiante graduada asegurándome que la gente estaba interesada en mi trabajo en la estrella simbiótica Z Andromedae – hasta hoy, una de mis favoritas. Esta conversación con Janet me hizo sentir la importancia de ser parte de una comunidad de investigación. De hecho, aquellos de ustedes que han presentado observaciones de novas o estrellas simbióticas son parte de mi comunidad de investigación, ya que no pude hacer mi trabajo sin las curvas de luz de las novas y estrellas simbióticas proporcionadas por la AAVSO. Como un ejemplo, para nuestro reciente descubrimiento de un eco de luz alrededor de la nova recurrente T Pyx, que será presentado en el libro de revisión científica del año del Telescopio Espacial Hubble (HST), comparé las curvas de luz AAVSO de T Pyx con las curvas de luz en

crudo del HST de varias acumulaciones en la cáscara que rodea a la nova T Pyx que el HST puede resolver espacialmente. Esta comparación nos permitió, a mis coautores y yo, determinar el tiempo que tomó para que los fotones de la enana blanca en erupción viajaran a las acumulaciones circundantes. Debido a que la velocidad de la luz es constante, el tiempo para que la luz de la enana blanca llegase a las acumulaciones en la cáscara reveló la geometría de la cáscara de la nova y su distancia a T Pyx. También utilizo regularmente las curvas de luz AAVSO de erupciones de novas y estrellas simbióticas para planificar observaciones de radio y rayos X.

Desde mi ingreso al Consejo, en 2009, he estado inspirada por la experiencia de trabajar con otros miembros de la increíble comunidad de AAVSO en el Consejo, en lo que originalmente es la cooperación científica entre astrónomos profesionales y aficionados. Para terminar, me gustaría dar las gracias a Mario Motta por su servicio dedicado y afable como Presidente. Mientras me esfuerzo para que el Consejo pueda gobernar bien, voy a mantener conmigo su visión de la AAVSO como un lugar donde uno puede disfrutar de la belleza y la paz del cielo nocturno, junto con la emoción del descubrimiento científico. ★

### 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.

## VISUAL OBSERVING MANUAL IN SPANISH—2013 EDITION

The Spanish version of the 2013 edition of the *Manual for Visual Observing of Variable Stars—Manual para la Observación Visual de Estrellas Variables*—is now available for download here:

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

It is hoped that people who speak Spanish will find this translation useful and it will encourage them to learn the art and science of variable star observing. The Manual is available free-of-charge and may be reproduced and distributed as needed.

Many thanks to Jaime García for all his hard work translating both the original version and this updated version of the Manual.

La versión en español de la edición de 2013 del *Manual para la Observación Visual de Estrellas Variables* ya está disponible para bajar aquí:

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

Esperamos que esta traducción le resulte útil a la gente que habla español y los incentive a aprender al arte y la ciencia de observar estrellas variables. El Manual está disponible sin cargo y puede reproducirse y distribuirse como sea necesario.

Muchas gracias a Jaime García por su arduo trabajo traduciendo tanto la versión original como esta versión actualizada del Manual. ★

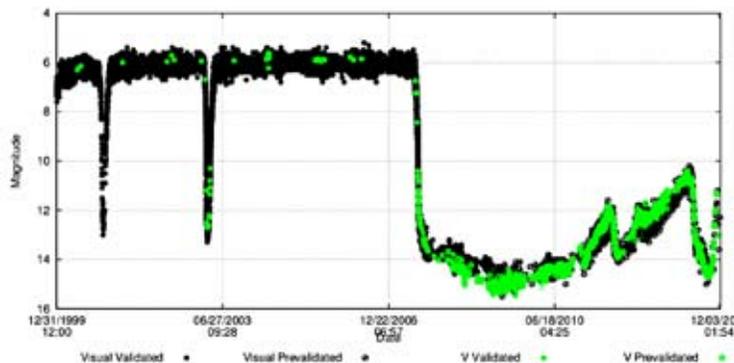
## R CORONAE BOREALIS STARS IN REVIEW

MIKE SIMONSEN (SXN), AAVSO HQ

*“Life is like a box of chocolates—you never know what you’re going to get.”*

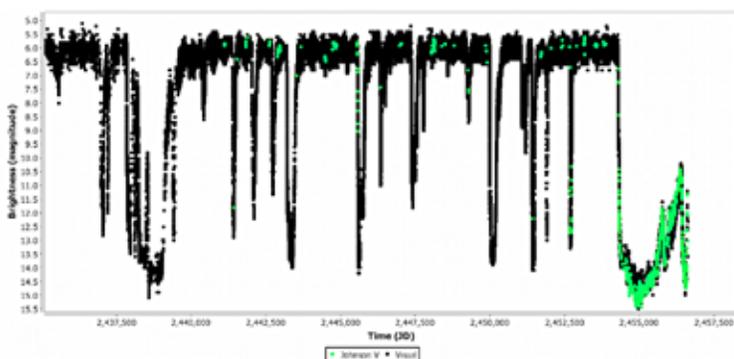
Forrest Gump could have just as easily been talking about the unpredictable “R Cor Bor” stars. Some of them are active, some of them rarely do anything, some are exhibiting behaviors we’ve never seen before, and some of them are lying in wait, biding their time before they spring some new surprise on us.

We’ll start with the prototype of the class, R CrB. For almost half the time since the beginning of the 21st century this star has been a telescopic object. We have been witness to the longest and deepest fading episode in recorded history. Normally resting quietly at maximum, around 6th magnitude, R CrB started to fade in July of 2007 and hasn’t recovered to maximum brightness since.



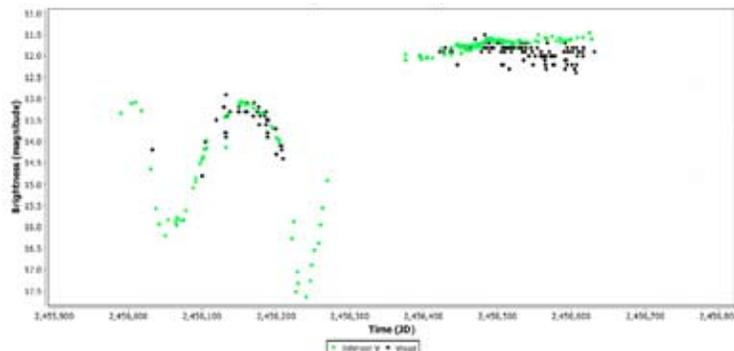
The AAVSO light curve for R CrB from January 2000 to December 2013

The only other fading episode coming close to this length and duration began in 1962 and ended in 1967, when R CrB finally reached maximum after several fitful fades and partial recoveries.



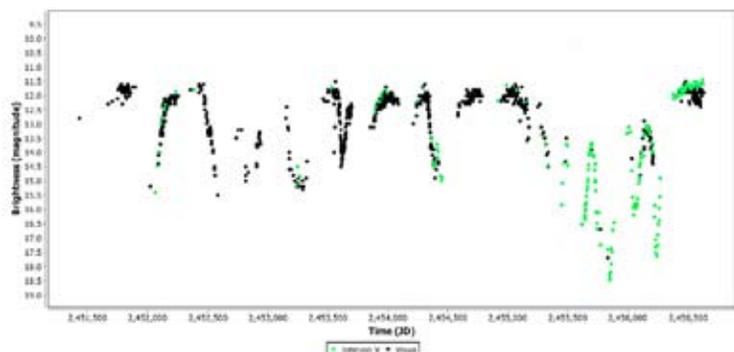
The AAVSO light curve of R CrB from 1955 to December 2013, showing the previous record holding fade in the 1960s

ES Aql is another interesting and active RCB star. It too has demonstrated some record minimum magnitudes in recent years. However, 2013 has been mostly peaceful, with ES Aql at or near maximum magnitude since March.



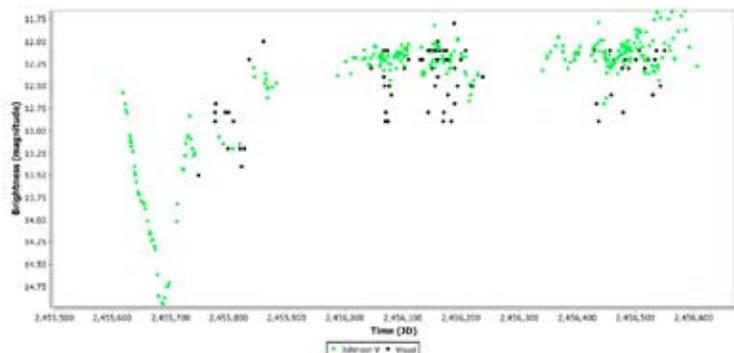
ES Aql in 2012 and 2013—2012 was an active year, 2013 not so much

Past performance is no guarantee of future return—definitely true in this case. ES Aql has been an active, fun star to follow since 1999. This year it decided to take a rest. Fortunately, these maxima don’t tend to last too long, so we should be in for another roller coaster ride sooner rather than later, as the light curve below from 1999 to date shows.



The AAVSO light curve for ES Aql from 1999 to December 2013

FH Sct is an RCB that has only recently begun to gain favor with AAVSO observers. The light curve below shows the last three seasons of observations. 2011 began with the only fading episode in the AAVSO record. 2012 and 2013 show some quasi-periodic variation but nothing spectacular.

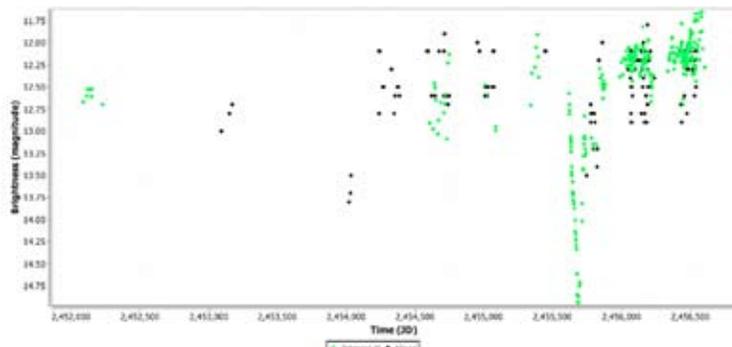


The AAVSO light curve for FH Sct from 2011 to December 2013

The historical record for this RCB is spotty, so it’s very hard to predict whether FH Sct will be active or R Cor Boring. We won’t know if you don’t observe and record its behavior for posterity and science.

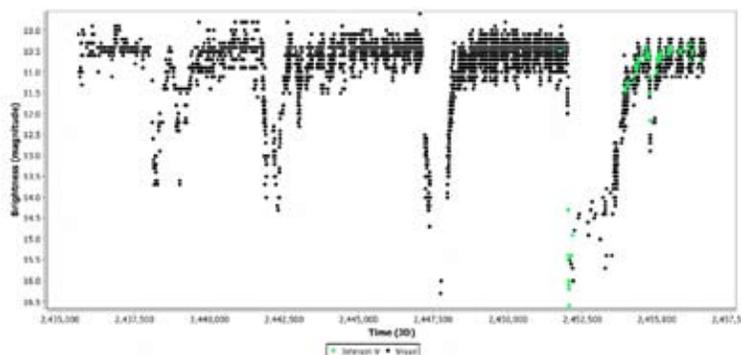
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## R CRB STARS CONTINUED...



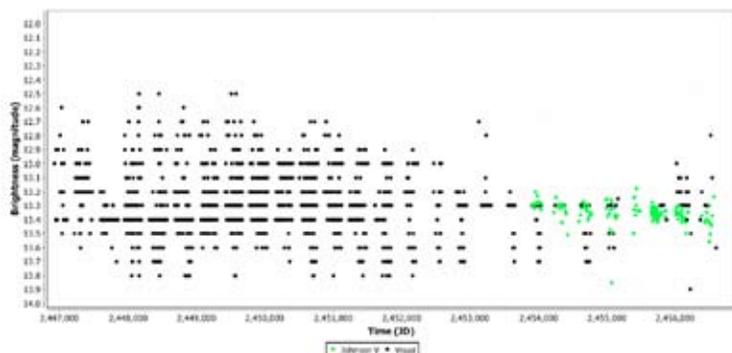
The AAVSO light curve for FH Sct from 2001 to December 2013

GU Sgr is an RCB that has an interesting past, but for the past several years has remained at maximum. Below is the light curve of GU Sgr from 1956 to present. Based on past performance, we may need to wait a few more years for GU Sgr to ‘go faint’ again. Once we see observations coming in at 11.5V or fainter, it will be time to get excited again.



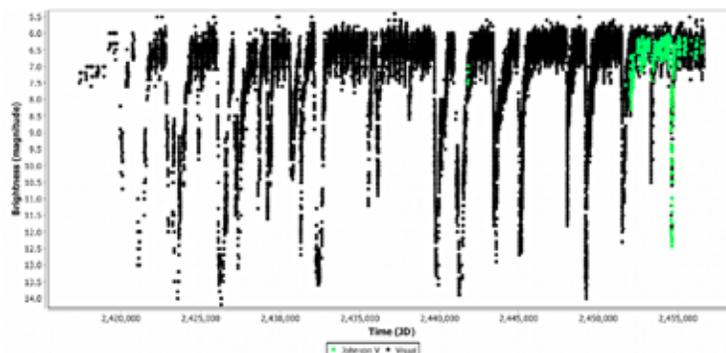
The AAVSO light curve for GU Sgr from 1956 to December 2013

I wonder if MV Sgr is really an RCB star. This light curve (below) looks more like a semiregular variable. This could be a misclassified variable star. In spite of it being classified as a hot, hydrogen deficient RCB, there are no fading episodes in the AAVSO DB. Something is going on based on the light curve below. Is the amplitude of variation really shrinking?



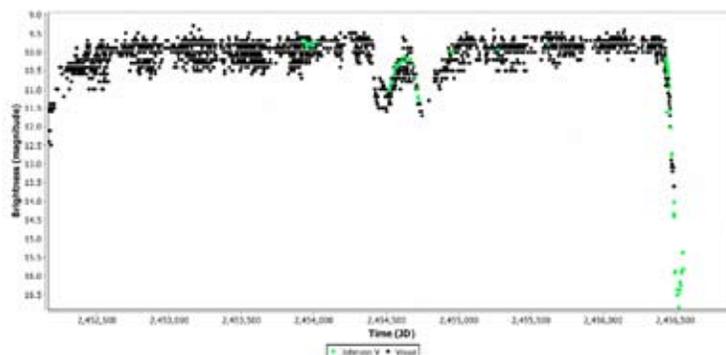
The AAVSO light curve of MV Sgr from 1987 to December 2013

RY Sgr is the southern-hemisphere analog of R CrB. At maximum it is a naked-eye or binocular object. When it fades, it can drop to 14th magnitude. 2013 wasn't very exciting, but judging from past performance, it shouldn't be long before the next big fade.



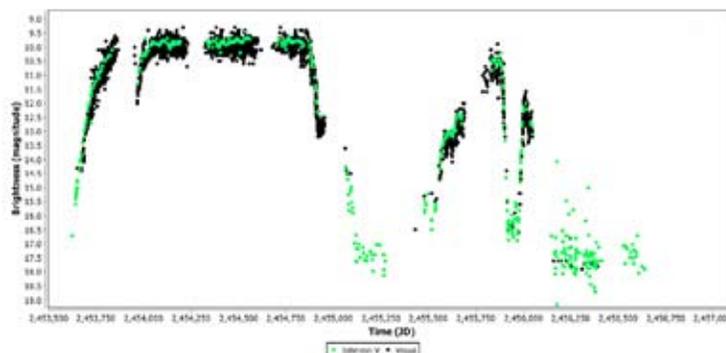
The AAVSO light curve of RY Sgr from 1906 to December 2013

2013 was a banner year for S Aps. It began a major fading event in May, reached minimum in August, and began to recover through September. 2014 should be interesting.



The AAVSO S Aps light curve from 2001 to December 2013

SU Tau is a very active and entertaining RCB star. Unfortunately for most visual observers, it has been at or near minimum since August 2012.

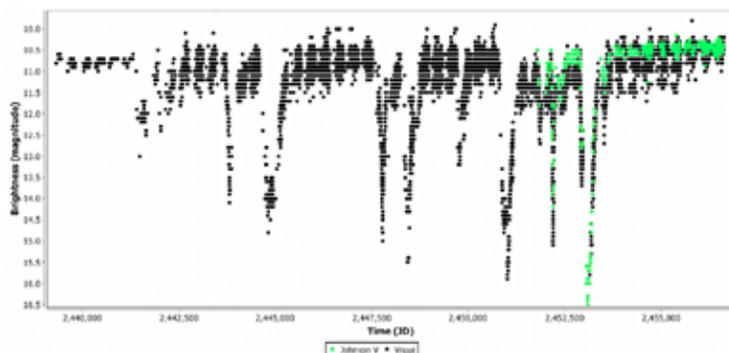


The AAVSO light curve for SU Tau from September 2005 to December 2013

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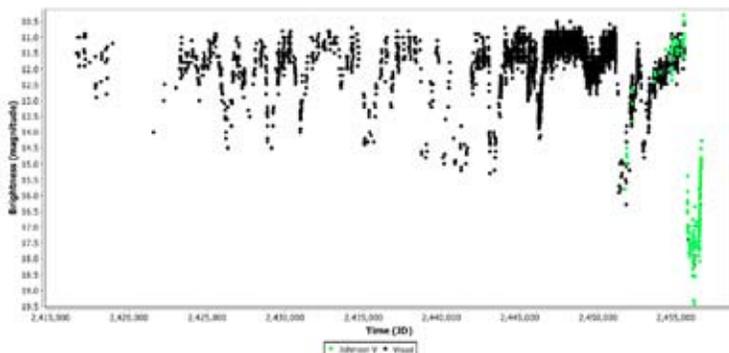
## R CRB STARS CONTINUED...

SV Sge has historically been a pretty entertaining RCB to follow. Unfortunately, since 2005 it has remained maddeningly steady at maximum. My bold prediction is that 2014 will be the year SV Sge comes to life again and fades to 15th magnitude or fainter.



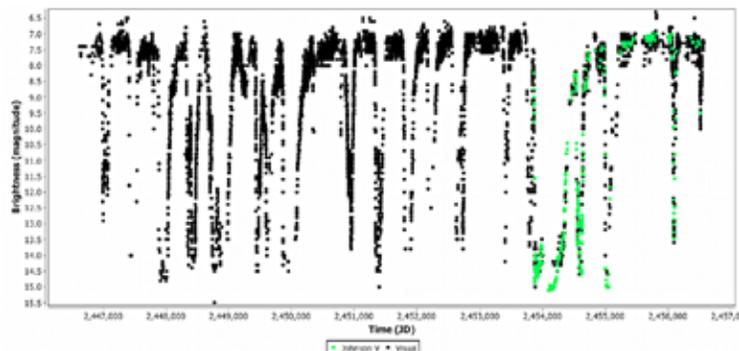
The AAVSO light curve of SV Sge from 1996 to December 2013

U Aqr is another RCB that has been strutting its stuff the last couple years. In December of 2010 U Aqr was near maximum at 11.5V. When it was picked up again in June 2011 it had faded to 15.38V. By July 2012 it had bottomed out at 19th magnitude. It's been recovering through 2013 and was last reported to be 14.27V December 5, 2013.



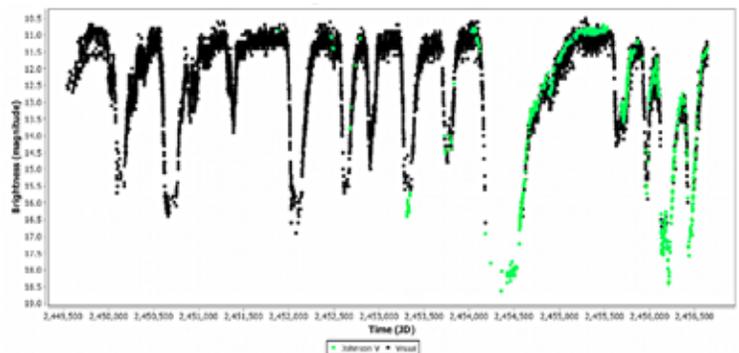
The AAVSO light curve for U Aqr from 1904 to December 2013

V854 Cen has had two fading episodes in two years. The fade in 2012 dropped to 13.6V. The fade in 2013 was less dramatic. It fell to 10.0 for a time and then recovered to maximum around 7.3V. This RCB has been a busy variable star as can be seen in the AAVSO light curve from 1986 to present.



The AAVSO light curve of V854 Cen from 1986 to December 2013

Z UMi is another RCB that seems bent on setting new records for unusual behavior. In September of 2007 it reached a record minimum magnitude of 18.64V. By November 2009 it had recovered to 10.9V. In March 2011 it had faded again to 14th magnitude, recovered and faded again to 15.9 in February 2012, rose to maximum at 11.6 in June 2012 only to fade once more to 18.4V in October. 2013 started with Z UMi rising again, reaching 12.75 in March, only to fade abruptly once more to 17.5 in May. Since then it has been on the rise and was last reported in December to be 11th magnitude once more.



The AAVSO Z UMi light curve from 1994 to December 2013

Strap yourselves in, 2014 is probably going to be a wild ride! ★

## DETERMINING THE SUNSPOT NUMBER

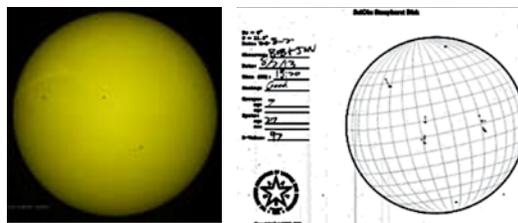
BRIAN MASON, USNO

The following article regarding a Summer 2013 Student Solar Observing Project at the U.S. Naval Observatory in Washington, D.C., was presented as a poster at the AAVSO Annual Meeting. The interns were college and high school students (mostly high school) from mainly local schools, with one high school student attending from Alabama. The internships ran eight weeks, although a few students stayed longer. They presented their projects (sunspot observing was only one activity) at a professional seminar at USNO. The telescope they used was a 6-inch refractor that was housed in USNO Building 29, a historic building used in operations for the 19th century Transit of Venus expeditions.

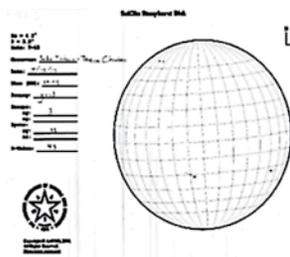
While modern telescopes and instruments (see SDO satellite, above, right) generate much more astrophysical data, the Wolf Index (1848) provides a very long-term measure of solar activity through the Sunspot count. Interns from the USNO have, since at least 2005, contributed to the mean Wolf Index (American Sunspot Number  $R_A$ ) calculated by the American Association of Variable Star Observers.



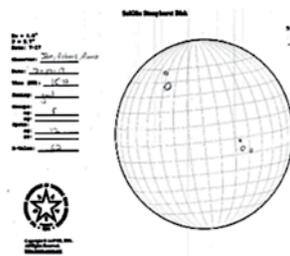
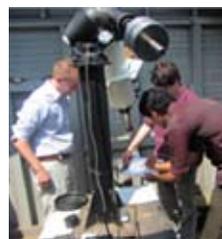
August 2, 2013  
Solar Dynamics Observatory (SDO; NASA Goddard) <http://sdo.gsfc.nasa.gov/>



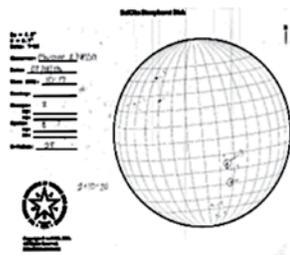
Using this SDO image for August 2, 2013, Robert and Jon count 7 groups and 27 sunspots for a Wolf number ( $R = 10g + s$ ) of 97.



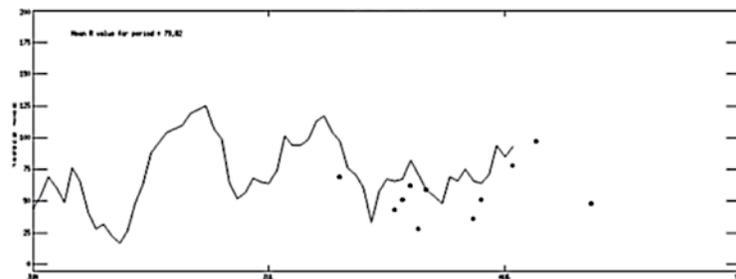
July 15, 2013—Using the USNO telescope to project an image, Sadi and Terrisa use the AAVSO Stonyhurst disk to record their data for July 15, 2013. They count 3 groups and 13 sunspots for a Wolf number ( $R = 10g + s$ ) of 43.



July 17, 2013—Using the USNO telescope to project an image, Jon and Robert on July 17, 2013, use the AAVSO Stonyhurst disk to find 5 groups and 12 sunspots for a Wolf number ( $R = 10g + S$ ) = 65.

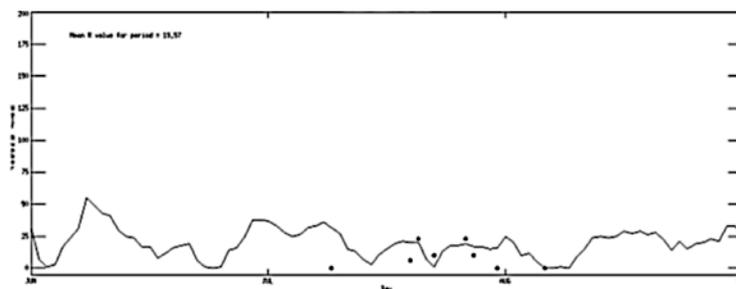


July 18, 2013—Using the USNO telescope to project an image Christine and Nessa on July 18, 2013, count 2 groups and 8 sunspots on the AAVSO Stonyhurst disk for a Wolf number ( $R = 10g + s$ ) of 28.



AAVSO Average Values for June–July and USNO measured values (dots) in July–August 2013

For comparison: AAVSO Average Values and USNO measured values for June, July, and August 2006



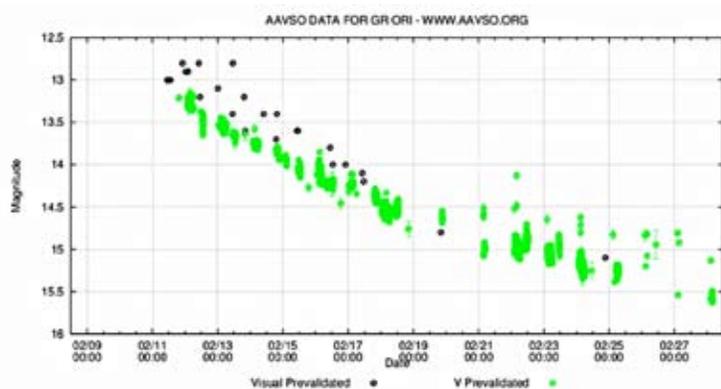
Looking at the above graphs you can see how scattered visual observations (dots) can be when compared to on average 65 experienced observers. This may reflect that these observers are new to solar observing. Monthly data for the AAVSO American Relative sunspot number are stored at NGDC: <http://www.ngdc.noaa.gov/nndc/struts/results?t=102827&s=1&d=8,4,9> under American sunspot numbers. ★

## THE YEAR IN CATAclysmic VARIABLES

MIKE SIMONSEN (SXN), AAVSO HQ

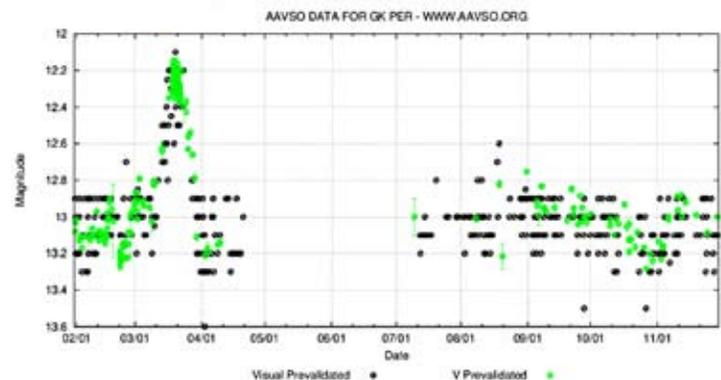
There weren't any remarkable, rare, or noteworthy outbursts in January, but we did start the year out with several requests to monitor CVs for astronomers using the HST Cosmic Origins Spectrograph (COS) in a major CV program. AAVSO observers monitored SDSS J093249.57+472523.0, CU Vel, LT Eri, BB Dor, SDSS J100515.38+191107.9 and U Gem.

February brought with it a rare outburst of an old nova, GR Ori (Nova Ori 1916), first reported by Rod Stubbings (Australia).



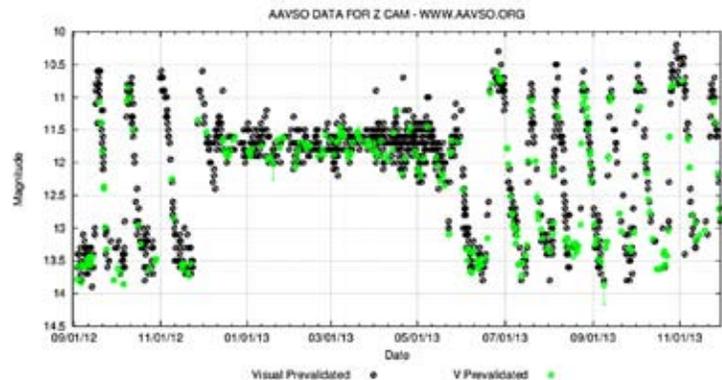
KZ Gem also made a rare appearance in February. The CV-HST team asked observers to observe IR Com, BB Dor, and HM Leo at various times through the month. HST was scheduled to observe V485 Cen, PU CMa, and IY Uma, but the observations of PU CMa had to be put on hold as the system went into outburst shortly before the scheduled run.

GK Per (Novae Per 1901) decided to wake up for a time in March. She had one of her infrequent dwarf nova-like outbursts, getting as bright as 12.1V before fading back down to a restless slumber around 13th magnitude.



The CV-HST team kept us all very busy in April. Observations were requested for MR UMa, RZ Leo, QZ Lib, and SDSS J154453.60+255348.8. This monitoring continued into May with the license plate CVs 1RXS J105010.3-140431, ASAS1600-48, and SDSS J153817.35+512338.0, as well as DT Oct and V1108 Her.

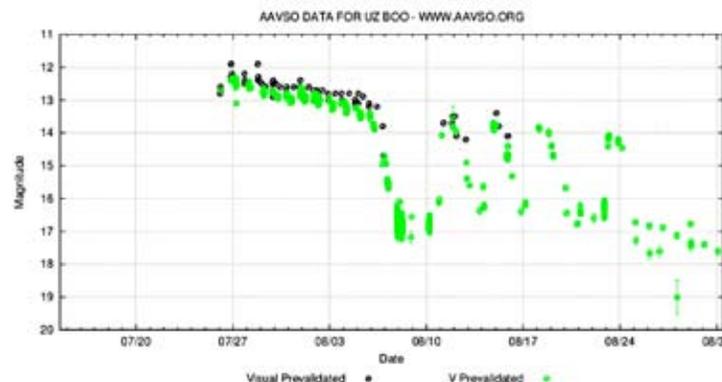
Z Cam also ended a five-month long standstill in May, and has resumed its normal activity, bouncing back and forth from 13th magnitude to 10th.



Also in May, a group of astronomers led by Dr. James Miller-Jones of Curtin University and the International Centre for Radio Astronomy Research published a revised distance to SS Cygni, solving a major mystery surrounding this star and its behavior. Their work was made possible by the dedication of AAVSO observers worldwide who monitor SS Cygni and report their observations to the American Association of Variable Star Observers' International Database.

June began with the announcement of our first nova of the year, Nova Sco 2013. There wasn't much excitement around this 11th magnitude eruption. HST was scheduled to observe more CVs in June, so AAVSOers were kept busy monitoring BD Pav and CC Scl. Near the end of the month Dr. Andrea Dupree (CfA) requested AAVSO monitoring, through September, of the symbiotic variable AG Dra, for correlation with Chandra x-ray and HST ultraviolet observations.

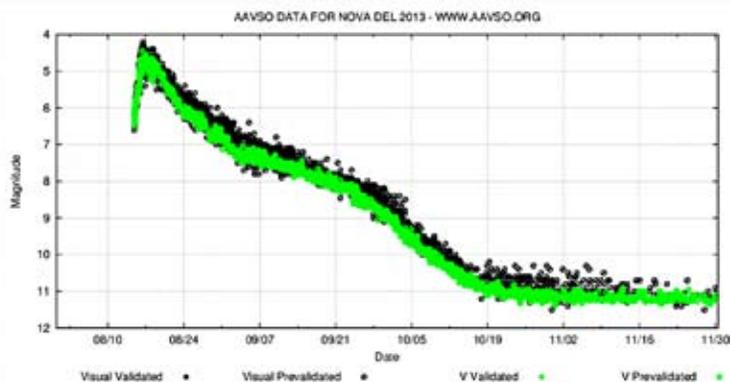
July's CV-HST program stars were 1RXS J213807.1+261958, V513 Peg (HS 2214+2845), and OR Andromedae, but at the end of the month Carey Chiselbrook (Georgia, USA) reported a rare outburst of UZ Boo. UZ Boo performed spectacularly, with no fewer than four re-brightenings after the initial outburst faded.



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## CATAclysmics CONTINUED...

Things really got hot in August with the eruption of a naked-eye nova in Delphinus, Nova Del 2013 (V399 Del). AAVSO observers world-wide followed this nova from initial detection all the way to the horizon. Probably nearly everyone reading this piece has a point or more in this light curve. I know I do!



I expect we will still be hearing about this nova in 2014 as it comes out from behind the Sun.

September brought two more outbursts of the infrequent and interesting type, UV Per and TU Tri, and CV-HST COS observations were scheduled for BB Ari and GZ Cet. October brought surprising outbursts of PU Per, AW Sge, and EI Psc, and November revealed CI Gem, MN Dra, and KV And making rare appearances.

December opened with another faint nova, Nova Ser 2013, which didn't garner much attention at 12th magnitude. However, the southern hemisphere observers were treated to a naked-eye nova low on the eastern horizon that should keep them busy well into 2014, Nova Cen 2013 (V1369 Cen). Finally, on December 6, Carlo Gualdoni reported AL Com to be in outburst for the first time since 2007. So the year ended with a flourish of activity, guaranteeing something for everyone and the prospect for another interesting year of CV observing for 2014. ★

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

Gerald Persha (PGD) once again gets the nod for the quarter as the most prolific observer, with 781 observations in B, V, and Rc filters. He continued observing Nova Delphini 2013 (V339 Del), along with a number of other stars. Most exciting for this writer were his B- and V-band observations of V376 Per, a bright, multiperiodic, low-amplitude delta Scuti star. Such stars are difficult to observe with CCDs or DSLRs, but are perfect for PEP observers. It's a great example of what a photoelectric photometer can do! Next after Gerald Persha were Tom Calderwood (CTOA) with 90 observations; 58 observations from Giorgio Di Scala (DSI); 55 from PEP Section chair Jim Fox (FXJ); 26 from Charles Calia (CCB); 18 from Frank Melillo (MFR); 12 from John Martin (UIS01); nine from James Kay (KJMB); four from Erwin van Ballegoij (BVE); and one from Pat Rochford (RPT). We also note 28 infrared observations were submitted this quarter by Giorgio Di Scala (22 observations) and James Kay (6 observations); many thanks to both for their efforts with the SSP-4!

Gerry Persha's time series made V376 Per the most-observed star of the quarter with 558 B- and V-band observations. Next was V339 Del with 136 observations in B and V filters (with one Rc observation). After V339 Del, our next most popular stars for the quarter were: P Cygni (36); BD+20 307 (an RS CVn star, 22); V695 Cygni (18); AB Cygni (16); V1070 Cygni (16); EG Andromedae (15); CH Cygni (14); R Lyrae (14); RU Camelopardalis (13); EU Delphini (12); and U Delphini (12). Forty-four more stars were observed more than once during the quarter, which is great to see!

We continue to receive observations beyond the traditional PEP-V program, and a number of observers are submitting multicolor photometry reduced on their own. We're really happy to see people exploring the limits of their equipment. As we stated last quarter, we still have the PEPObs function in WebObs available for V-only PEP observations, but we very strongly encourage observers with multiple filters to give them a try! If you have the filters available but need pointers on doing data reductions, you're welcome to contact PEP chair Jim Fox ([makalii45@gmail.com](mailto:makalii45@gmail.com)) or AAVSO headquarters.

As a reminder, you can find a list of all current PEP targets on the AAVSO website: <http://www.aavso.org/suggested-stars-pep-observers> and everyone can learn more about PEP observing and the AAVSO PEP program as well: <http://www.aavso.org/aavso-photoelectric-photometry-pep-program>

Clear skies! ★

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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/aavsolpsection/Home/lpv-files> for the LPV lists, and <https://sites.google.com/site/aavsovcvsection/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 seventeen best-covered stars of the LPV Legacy program, as measured by number of nights observed, 2013 September 16 through December 15:

Name	Con	R.A.(J2000)	Dec.(J2000)	$N(vo)$	$N(von)$	$N(co)$	$N(con)$
T Cas	Cas	00:23:14.27	+55:47:33.2	40	56	4	13
W And	And	02:17:32.95	+44:18:17.7	26	57	4	11
omi Cet	Cet	02:19:20.78	-02:58:39.5	52	72	3	11
R Tri	Tri	02:37:02.33	+34:15:51.4	33	55	7	19
alf Ori	Ori	05:55:10.3	+07:24:25.4	29	67	2	11
g Her	Her	16:28:38.54	+41:52:53.9	34	71	2	18
R Lyr	Lyr	18:55:20.1	+43:56:45.8	33	73	2	10
CH Cyg	Cyg	19:24:33.06	+50:14:29	66	90	8	55
AF Cyg	Cyg	19:30:12.84	+46:08:52	52	88	0	0
R Cyg	Cyg	19:36:49.38	+50:11:59.4	55	77	5	15
khi Cyg	Cyg	19:50:33.91	+32:54:50.6	37	57	5	15
EU Del	Del	20:37:54.7	+18:16:06.3	36	78	2	20
U Del	Del	20:45:28.23	+18:05:24	41	83	2	16
T Cep	Cep	21:09:31.78	+68:29:27.1	53	84	3	4
mu Cep	Cep	21:43:30.49	+58:46:48	44	85	3	13
rho Cas	Cas	23:54:23.03	+57:29:57.8	54	83	3	4
R Cas	Cas	23:58:24.87	+51:23:19.7	40	76	3	6

$N(vo)$  = 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

Thirteen least-observed stars of the LPV Legacy program during the quarter 2013 September 16 through December 15:

Name	Con	R.A.(J2000)	Dec.(J2000)	$N(vo)$	$N(von)$	$N(co)$	$N(con)$
W Per	Per	02:50:37.89	+56:59:00.3	5	11	0	0
W Tau	Tau	04:27:57.18	+16:02:36.1	10	19	4	5
S CMi	CMi	07:32:43.07	+08:19:05.1	7	16	1	1
R Cnc	Cnc	08:16:33.82	+11:43:34.5	6	14	3	6
R Car	Car	09:32:14.59	-62:47:19.9	4	16	0	0
R LMi	LMi	09:45:34.27	+34:30:42.8	5	12	1	1
S Vir	Vir	12:25:14.4	+00:46:10.9	2	2	0	0
R Vir	Vir	12:38:29.94	+06:59:18.9	4	9	0	0
RS UMa	UMa	12:38:57.54	+58:29:00.2	8	9	1	1
R Hya	Hya	13:29:42.77	-23:16:52.7	3	3	0	0
T Cen	Cen	13:41:45.55	-33:35:50.5	3	4	0	0
R CVn	CVn	13:48:57.05	+39:32:33.2	5	8	0	0
R Cen	Cen	14:16:34.31	-59:54:49.2	4	19	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 September 16 through December 15:

Name	Con	R.A.(J2000)	Dec.(J2000)	$N(vo)$	$N(von)$	$N(co)$	$N(con)$
EG And	And	00:44:37.19	+40:40:45.6	27	79	3	22
RX And	And	01:04:35.52	+41:17:57.8	46	80	12	76
UV Per	Per	02:10:08.03	+57:11:19.7	17	63	5	19
TZ Per	Per	02:13:50.94	+58:22:52.7	19	68	8	57
GK Per	Per	03:31:12	+43:54:15.4	27	73	9	39
SS Aur	Aur	06:13:22.47	+47:44:25.6	23	67	6	14
U Gem	Gem	07:55:05.21	+22:00:04.7	30	68	17	68
Z Cam	Cam	08:25:13.18	+73:06:39	31	74	4	37
CH Cyg	Cyg	19:24:33.06	+50:14:29.1	66	91	8	60
EM Cyg	Cyg	19:38:40.11	+30:30:28.4	24	69	7	54
SS Cyg	Cyg	21:42:42.78	+43:35:09.8	90	89	16	74
AG Peg	Peg	21:51:01.97	+12:37:32	20	69	5	11
RU Peg	Peg	22:14:02.57	+12:42:11.4	32	73	5	15
IP Peg	Peg	23:23:08.59	+18:24:59.6	18	67	4	12
Z And	And	23:33:39.95	+48:49:05.9	45	80	3	8

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LEGACY STARS  
CONTINUED...

Stars in CV Legacy list with no visual or CCD observations during the quarter 2013 September 16 through December 15:

Name	Con	R.A.(J2000)	Dec.(J2000)	N(vo)	N(von)	N(co)	N(con)
RR Pic	Pic	06:35:36.05	-62:38:24.2	0	0	0	0
V436 Cen	Cen	11:14:00.18	-37:40:47.4	0	0	0	0
V442 Cen	Cen	11:24:51.95	-35:54:37	0	0	0	0
TT Crt	Crt	11:34:47.26	-11:45:30.9	0	0	0	0
MU Cen	Cen	12:12:53.91	-44:28:15.8	0	0	0	0
EX Hya	Hya	12:52:24.22	-29:14:56	0	0	0	0
V485 Cen	Cen	12:57:23.28	-33:12:06.5	0	0	0	0
HV Vir	Vir	13:21:03.12	+01:53:29.6	0	0	0	0
V803 Cen	Cen	13:23:44.53	-41:44:29.6	0	0	0	0
BV Cen	Cen	13:31:19.48	-54:58:33.4	0	0	0	0
V0504 Cen	Cen	14:12:49.18	-40:21:37.5	0	0	0	0
V618 Sgr	Sgr	18:07:56.9	-36:29:36.9	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
V441 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

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. ★

## 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 October 1, 2013*

Dr. Michael Shara's (American Museum of Natural History, Columbia University) campaign to monitor the dwarf nova **U Gem** to enable and support HST/COS ultraviolet observations (*AAVSO Alert Notice 475*) has been successfully concluded. You provided painstaking monitoring of U Gem for months (which Dr. Shara gratefully acknowledged several times) to catch the long-awaited outburst that began November 9, and excellent coverage of that outburst and of U Gem's return to minimum (Figure 1). This exemplary support allowed Dr. Shara to schedule his last set of HST observations, which were successfully carried out on December 7. He subsequently wrote: "Dear Elizabeth, I am overwhelmed at the quality and quantity of AAVSO data on U Gem; how wonderful! My deep thanks to...[the more than 100 AAVSO observers who have contributed to this campaign], and [particularly] observers Arminski, Billiaert, Dvorak, Foster, Myers, Nelson, and Pederson who did a splendid job [providing multicolor coverage on the actual day of the HST observations]. very, very best Mike." We will hear from Dr. Shara again as he analyzes the data from this campaign. Thank you, everyone!

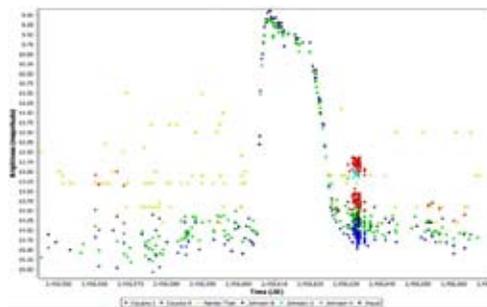


Figure 1. AAVSO light curve of the dwarf nova **U Gem** JD 2456544.90443–2456666.75556 (9 September 2013–9 January 2014). 55 observers worldwide have contributed 1,093 observations to this light curve. (VStar light curve)

Now that the 2013 observing season for **AG Dra** is over, the campaign on this star in support of Dr. Andrea Dupree's (Harvard-Smithsonian Center for Astrophysics) Chandra and HST observations (*AAVSO Alert Notice 485*) is concluded. Dr. Dupree and colleagues are analyzing their data, and are very appreciative of AAVSO observers' valuable contributions.

*Campaigns initiated since October 1, 2013*

In December a campaign was started (*AAVSO Alert Notice 493*) to observe the classical T Tauri star **BP Tau** at the request of Dr. Hans Moritz Guenther (Harvard-Smithsonian Center for Astrophysics). Dr. Guenther is studying the accretion processes underway in this star and will be observing with Chandra. He writes: "...BP Tau is a classical T Tauri star in the Taurus-Auriga star forming region. It is surrounded by a thick accretion disk. Material is falling from the accretion disk onto that star and we want to study this accretion shock and its interaction with the other layers of the star. The accretion shock is very hot (2–4 Mio Kelvin) and can be best seen in X-rays, but support from optical observers is needed. Specifically, we want to find out (1) if the X-ray spot is seen at the same time as bright or dark spots on the stellar surface, and (2) if the optical brightness changes, when the X-ray flux suddenly goes up or down due to changes of the rate of accretion or stellar flares. To do all this we need optical light curves over several weeks, so that we can see the rotational modulation and the average fluctuation in the light curve. For this we ask for the help of the AAVSO...." The satellite observations will be carried out in several segments, and coverage of this ~11–13 magnitude star is requested at least until the end of the observing season. Please see the *Alert Notice* for details.

This campaign is not new but **the target list has been revised**. Darryl Sergison's (University of Exeter) campaign to study the environments of T Tauri stars (*AAVSO Alert Notices 494*, preliminary campaign announced in *AAVSO Alert Notice 473*) continues. The revised targets for now through at least February (when Dr. Sergison's actual monitoring ends) and preferably the end of the observing season (for good follow-up coverage) are **BP Tau**, **DN Tau**, **FK2**, **V1068 Tau (LkCa4)**, and **V1264 Tau**.

*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, is nearing completion (*AAVSO Alert Notice 471* and many *AAVSO Special Notices*). The 40th and final target on the campaign list, **SDSS J100658.40+233724.4**, will be observed during the week of 2014 March 17–24. Dr. Gaensicke writes: "This HST project has gone incredibly well, there are now two Ph.D. students working full-time on the data we

## CAMPAIGNS UPDATE CONTINUED...

obtained throughout 2013, and there will be a lot of exciting...! Without the help of your observers, this project would not have been possible....”

The campaign by Dr. Hans Moritz Guenther (Harvard-Smithsonian Center for Astrophysics) on the classical T Tauri star **AA Tau** officially ran 2013 August 1 through September 20 in order to determine the behavior of AA Tau for scheduling XMM-Newton observations (*AAVSO Alert Notice 488*). However, continuation of monitoring was requested to help track the star’s behavior, which has changed completely from its decades-long pattern. To date, 12 observers have contributed 478 visual and multicolor observations—thank you very much! Please continue your snapshot CCD and visual observations of observations of AA Tau through the remainder of the observing season.

Dr. William Herbst (Wesleyan University) and Rachel Pederson’s (Bates College) request for optical monitoring (nightly snapshot CCD and visual observations) of the Orion variable **T Ori** (*AAVSO Alert Notice 490*) continues through the observing season. Dr. Herbst is grateful for observers’ coverage of T Ori in this study of the star’s variability of several magnitudes, the cause of which is still not fully understood. To date, 36 observers have contributed 1,050 visual and multicolor observations.

The campaign organized by Huan Meng and Dr. George Rieke (University of Arizona) and begun in April to study dust production in developing planetary systems continues until the end of the observing season on the 7th and 9th magnitude V stars **BD+20 307**, **HD 15407A**, and **HD 23514** (*AAVSO Alert Notice 482*). The comparison star for HD 15407A has been changed from the 96 in the field of HD 15407A to a **95 (AUID 000-BKY-169)** and a **102 (AUID 000-BKY-171)** in the field. Please use these stars as comparisons for HD 15407A. Do not use the 96. Please see *AAVSO Special Notice #373* for details. 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.

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 2014 observing season at least. Dr. Karovska, who is extremely grateful for the wonderful coverage, pleads for observers to continue, especially in V and B. The V and B data are crucial for detecting certain significant system changes key to her research. Since this campaign began in March 2012, 176 observers have contributed 17,802 visual and multicolor observations!

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... This introduces the interesting possibility that the 2001 dip was from another body in the J1407 system.” Since that was written in June, AAVSO observers have continued to provide excellent coverage and no eclipse has been observed, so please continue your observations—they are extremely important in helping to solve the puzzle of this interesting and possibly complex system (*AAVSO Alert Notice 462*). Three observers have contributed 1,099 multicolor observations to date.

Dr. Noel Richardson’s multiwavelength campaign on the Luminous Blue Variable prototype **S Dor** continues at least through the 2013–2014 observing season (*AAVSO Alert Notice 453*, *AAVSO Special Notice #280*, *AAVSO Special Notice #293*, and S Doradus Telegram on organizer’s website). Please continue your coverage of this interesting variable, which is best observed instrumentally.

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 *JAAVSO*, 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

To complement the bright Northern nova discovered in August (V339 Del = Nova Del 2013), a bright nova in the Southern skies was discovered in December—Nova Centauri 2013!

**V1369 Cen = Nova Centauri 2013 = PNV J13544700-5909080** was discovered by John Seach (Chatsworth Island, NSW, Australia) on 2013 December 02.692 UT at unfiltered magnitude 5.5 using a DSLR with 50-mm lens. This exciting nova brightened rapidly, repeatedly over-reaching its often-extended comparison star sequence. It has shown five peaks so far, with the brightest being the second one, at visual magnitude 3.27 on 2013 December 14 (OSE, S. Otero, Buenos Aires, Argentina). Visual and V coverage has been excellent, along with fairly regular B coverage and some BVRI photometry from G. Di Scala (DSI, Sydney, NSW, Australia) and AAVSONet telescope BSM\_South in Argentina. V1369 Cen has been as faint as 5.389V (2014 January 1, BSM\_South), and as of 2014 January 10, it is visual magnitude 4.85 (BISA, I. Bryukhanov, Minsk, Belarus) (Figure 2).



Figure 2. AAVSO light curve of the nova V1369 Cen = Nova Cen 2013 JD 2456624.30278-2456667.81597 (27 November 2013–10 January 2014). 55 observers worldwide have contributed 1,223 observations to this light curve. (VStar light curve)

## CAMPAIGNS UPDATE CONTINUED...

The nature of the object as a nova was confirmed by amateur spectroscopists Malcolm Locke (LMAB, Christchurch, New Zealand) and Rob Kaufman (KBJ, Bright, Victoria, Australia), who detected hydrogen emission very shortly after the discovery of the transient was announced. Spectroscopy of V1369 Cen shows some of the signature of an Fe II classical nova, but it is too soon to know if it will be a fast or slow nova.

V1369 Cen is a source of gamma-ray emission, something only recently discovered to occur in novae. It is not known whether such emission is rare in novae, or is actually common but we are discovering it only now because satellite gamma-ray detectors have become sufficiently sensitive. For an overview of this interesting nova to date, please see the very informative article written by Dr. Matthew Templeton on the AAVSO website (<http://www.aavso.org/nova-centauri-2013-another-bright-naked-eye-nova>). V1369 Cen is still very bright, and is sure to keep surprising us as it evolves, so please continue to make visual and multicolor observations regularly. Especially because it is too bright for most professional instruments, your observations will play a crucial role in understanding this nova!

**V339 Del** (= Nova Delphini 2013 = PNV J20233073+2046041), discovered by Koichi Itagaki on 2013 August 14 (*AAVSO Alert Notice 489*) and reported in the October 2013 *AAVSO Newsletter*, continues to be of great interest. It has been determined to be a very fast classical nova (class NA). After peaking at visual magnitude 4.3, V339 Del is fading, most recently at visual magnitude 11.1 on 2014 January 9.76389 UT (ONJ, J. O'Neill, Rush, Ireland) (Figure 3). 494 observers worldwide have contributed 64,826 observations of this nova to the AAVSO International Database so far.

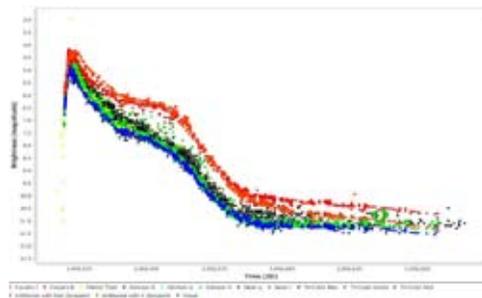


Figure 3. AAVSO light curve of the fast nova V339 Del = Nova Del 2013 JD 2456516.4146-2456667.26389 (11 August 2013-9 January 2014). 494 observers worldwide have contributed 64,826 observations to this light curve. (VStar light curve)

V339 Del is also a gamma-ray emission source, like V1369 Cen. Dr. Matthew Templeton wrote an excellent overview of V339 Del at the end of October which is available on the AAVSO website (<http://www.aavso.org/nova-delphini-2013-story-so-far>).

In the October newsletter, nova specialist and scientific advisor to the AAVSO Novae Forum (and then AAVSO 1st Vice President, now AAVSO President) Dr. Jenő Sokolowski (Columbia University) had some very interesting comments about this nova, and raised some fundamental research questions about novae that showed how valuable your observations could be in finding the answers. Coverage has been superb, from visual to multicolor PEP, CCD, and DSLR to spectra! Please keep up the excellent coverage of this exciting nova!

**V1533 Sco = Nova Scorpii 2013**, the fast nova discovered 2013 June 3 by Koichi Nishiyama and Fujio Kabashima (see *AAVSO Alert Notice 484*), announced in the July 2013 *AAVSO Newsletter* and updated in the October 2013 *AAVSO Newsletter*, reached a maximum brightness of 11.67V (SPET, P. Starr, Coonabarabran, NSW, Australia). As of 2013 September 11.4512 UT it was magnitude 19.575 V (HDHA, D. Hinz, Fairfax Station, Virginia, USA). 13 AAVSO observers worldwide have contributed 234 multicolor and visual observations through January 9, 2014. This nova (Figure 4) may never have reached a very bright magnitude and may be considered “ordinary,” but what is remarkable is that multicolor coverage continued down to magnitude 17 (HMB, J. Hamsch, Mol, Belgium, and HKEB, K. Hills, Hartford, England) and observations were made following the nova down past magnitude 18 (TYS, R. Tyson, Freeport, New York) to 19.745V (Hamsch)! Well done, everyone!

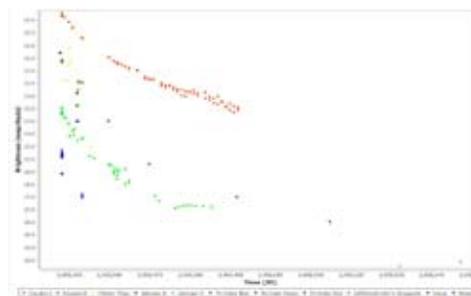


Figure 4. AAVSO light curve of the fast nova V1533 Sco = Nova Sco 2013 JD 2456447.49240-2456546.95119 (3 June 2013-11 September 2013). 13 observers worldwide have contributed 234 observations to this light curve. (VStar light curve)

With all the campaigns and stellar activity, 2013 was certainly a very active year and 2014 looks to be another one—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! ★

## JULIAN DATE / MOON PHASE CALENDARS

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

### JANUARY 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 6659	2 6660	3 6661	4 6662
5 6663	6 6664	7 6665	8 6666	9 6667	10 6668	11 6669
12 6670	13 6671	14 6672	15 6673	16 6674	17 6675	18 6676
19 6677	20 6678	21 6679	22 6680	23 6681	24 6682	25 6683
26 6684	27 6685	28 6686	29 6687	30 6688	31 6689	

### FEBRUARY 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 6690
2 6691	3 6692	4 6693	5 6694	6 6695	7 6696	8 6697
9 6698	10 6699	11 6700	12 6701	13 6702	14 6703	15 6704
16 6705	17 6706	18 6707	19 6708	20 6709	21 6710	22 6711
23 6712	24 6713	25 6714	26 6715	27 6716	28 6717	

### MARCH 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 6718
2 6719	3 6720	4 6721	5 6722	6 6723	7 6724	8 6725
9 6726	10 6727	11 6728	12 6729	13 6730	14 6731	15 6732
16 6733	17 6734	18 6735	19 6736	20 6737	21 6738	22 6739
23 6740	24 6741	25 6742	26 6743	27 6744	28 6745	29 6746
30 6747	31 6748					

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](mailto: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 centennial 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 at AAVSO Headquarters 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 2014 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 \$75.00 per year
	Associate (Under 21)/Pension/Limited Income	US \$37.50 per year
Sustaining:		US \$150.00 per year
Developing country <sup>†</sup> (for members residing in low income countries):		US \$25.00 per year

Membership is prorated 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	\$75.00	\$68.75	\$62.50	\$56.25	\$50.00	\$43.75	\$37.50	\$31.25	\$100.00	\$93.75	\$87.50	\$81.25
A/P/LI	\$37.50	\$34.38	\$31.25	\$28.13	\$25.00	\$21.88	\$18.75	\$15.63	\$50.00	\$46.88	\$43.75	\$40.63
Sustaining	\$150.00	\$137.50	\$125.00	\$112.50	\$100.00	\$87.50	\$75.00	\$62.50	\$200.00	\$187.50	\$175.00	\$162.50
Developing Country <sup>†</sup>	\$25.00	\$22.92	\$20.83	\$18.75	\$16.67	\$14.58	\$12.50	\$10.42	\$33.33	\$31.25	\$29.17	\$27.08

\*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.  
<sup>†</sup>See page 3 in this Newsletter for qualifying countries.

Contributions (see last page for descriptions):	
AAVSO Building Fund	\$ _____
Janet A. Mattei Research Fellowship	\$ _____
Margaret Mayall Assistantship	\$ _____
Solar Fund	\$ _____
AAVSONet Fund	\$ _____
Member Sponsorship Fund	\$ _____
AAVSO General Fund	\$ _____
The Endowment Fund	\$ _____
Contributor-Specified Restricted Funds	\$ _____

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

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

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

\_\_\_\_\_ 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: \_\_\_\_\_

# 2014 MEMBERSHIP RENEWAL

On this page is a copy of the AAVSO membership renewal form for 2014. 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. See page 3 of this *Newsletter* for Information regarding qualifying "Developing Countries."



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

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 State/Province \_\_\_\_\_  
 Zip/Postal Code \_\_\_\_\_  
 Country \_\_\_\_\_

## **2014 Membership Dues Renewal Form**

### **Membership Type** *(please check one)*

Annual \$75     Sustaining \$150  
 Associate (under 21) \$37.50  
 Pension/Limited Income \$37.50  
 Developing Country \$25

### **Contributions** *(see next page for descriptions)*

AAVSO Building Fund	\$ _____
Janet A. Mattei Research Fellowship	\$ _____
Margaret Mayall Assistantship	\$ _____
Solar Fund	\$ _____
AAVSONet Fund	\$ _____
Member Sponsorship Fund	\$ _____
AAVSO General Fund	\$ _____
The Endowment Fund	\$ _____
Contributor-Specified Restricted Funds	\$ _____

**TOTAL ENCLOSED** \$ \_\_\_\_\_

### **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: \_\_\_\_\_

# 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 Funds

The following is a list of the specific funds to which you may contribute. If you do not wish to specify how you would like your donation to be used, the AAVSO will determine the fund where it is needed most and place it there.

**The General Fund** This fund is an unrestricted one and supports the general operations of the Association.

**The Endowment Fund** This is a professionally managed fund, invested for the perpetuity of the AAVSO. From time to time, transfers from this fund into the General Fund are made as necessary to meet operating deficits of the Association.

**The Building Fund** This fund is dedicated to replenishing the Endowment Fund for the cost of purchasing the new headquarters building (49 Bay State Road, Cambridge, MA 02138), to provide funds to refurbish the building, and to cover other costs incurred with the purchase.

**Janet A. Mattei Research Fellowship Program** This fund enables a visiting scientist, postdoctoral researcher, or student to perform research at AAVSO Headquarters with the goal of disseminating the results throughout the astronomical community.

**Margaret Mayall Assistantship Fund** This fund helps finance a summer student at AAVSO Headquarters who works on variable star-related projects and research while learning about the AAVSO and variable stars in general. Only the accumulated interest and not the principal may be used.

**Solar Fund** This fund helps to pay the staff costs of running the section, publishing the *Solar Bulletin*, and travel expenses for visiting solar researchers.

**AAVSONet Fund** This fund pays for refurbishment and maintenance of telescopes, cameras, mounts, computers, software, and hardware required to operate the AAVSO's robotic telescope network.

**Member Sponsorship Fund** Funds donated to this program pay the membership dues for those active variable star observers who want to become members of the Association but cannot afford the dues.

**Contributor-Specified Restricted Funds** These are gifts and contributions made to the Association for restricted purposes as specified by the donor thereof. All such restricted funds of the Association shall be administered in strict accordance with the instructions of the donor. The Association is not obliged to accept any assets so offered.

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!**