

IN THIS ISSUE:

★ NEWS AND ANNOUNCEMENTS

NEW MEMBERSHIP DUES AND STRUCTURE	3
UPCOMING MEETINGS	4
OUTREACH ON THE CHEAP	5
ROBERT F. CHRISTY'S JOURNEY IN PHYSICS AND BEYOND	6



★ ALSO

TALKING ABOUT THE AAVSO	6
SCIENCE SUMMARY: AAVSO IN PRINT. . .	7
IN MEMORIAM	9
AAVSO OBSERVING CAMPAIGNS UPDATE.	14

Complete table of contents on page 2

ISSUE NO.58

OCTOBER 2013

WWW.AAVSO.ORG

AAVSO Newsletter

FROM THE DIRECTOR'S DESK

ARNE A. HENDEN (HQA)



The big news has been Nova Delphini 2013 (V339 Del), which went into outburst on August 14. It peaked at about visual magnitude 4.3, and as of the date of this writing, has faded to about magnitude 8.3. This classifies it as a fast nova; spectra

also indicate that it belongs to the FeII nova class. What has been remarkable to me is the enthusiastic response to the call for observations. We've had nearly 30,000 visual, PEP, DSLR, and CCD observations (from 453 observers!) reported to HQ, with very good temporal coverage (see the AAVSO light curve on p. 15). It has been fun following the evolution of this object and thinking about when it will eventually fade.

Another great aspect of the nova monitoring has been the wonderful spectroscopic work by the Astronomical Ring for Access to Spectroscopy (ARAS) group, centered in Europe. They have been taking hundreds of spectra, some very high resolution, following the evolution of the spectral lines. This is a good example of how amateur spectroscopists will be important in monitoring future transient objects.

BSM_Berry has also been evolving. Gary Walker has built an enclosure for the telescope on the

roof of HQ, and we have been reconfiguring the network to make most effective use of this new instrument. BSM_Berry has taken thousands of images in support of the V339 Del campaign, with many of them already in the AID. As we further calibrate this system, we'll go back and improve the nova photometry.

Two students joined the HQ staff for the summer. Shouvik Battacharya (a native of India) came to us from the University of Minnesota, and helped me process some of the APASS data in preparation for data release 8. Anisha Sharma (a native of Nepal) just graduated from Bennington College in Vermont, and helped process AAVSONet data and work on an archival nova project with me. Both of these Margaret Mayall assistants were very effective and helped further these projects—and they were fun to have around!

The sad part about the summer was the passing of two friends—Lou Cohen and Albert Jones. Lou was our treasurer for several years, and was a long-time CCD observer as well. He retired from his AAVSO duties and spent his time composing music. Everyone knows Albert, and his infectious joyful attitude will be sorely missed. It was my honor to have met him during trips to New Zealand.

The end is drawing near for the HST CV survey—the last object is in the queue for observation.

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SINCE 1911...

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

PRESIDENT'S MESSAGE

MARIO MOTTA, M.D. (MMX)



With our 2013 annual meeting approaching, my term as President of the AAVSO is rapidly coming to a close. It has been my distinct honor and pleasure to serve the AAVSO in this capacity over the past two years. We have a 100-plus year-old organization that

is steeped in history and accomplishment and is well poised for the next century. We are an amateur-professional collaboration organization and a citizen's science group and were long before these terms became fashionable. Our excellence is such that our data are sought by and frequently used in research by professional astronomers and others on a regular basis.

We have had our share of growing pains over the past 100 years, overcoming numerous crises and obstacles. The last few years have proved no less challenging. Our endowment took a significant hit with the worldwide economic downturn, challenging our financial stability. With the hard work of both your director and a very active and attentive council, we have survived this latest crisis. We still of course have ongoing significant

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

Soon many papers will be published regarding these objects, with many acknowledgements for the hard work by many AAVSO observers in monitoring the CVs for outbursts. GAIA is just around the corner, and will be asking for many amateurs to follow their transient objects over the next few years. Kepler, on the other hand, has ended its main mission, and any follow-up of interesting objects that it has found will have to be done by the ground-based community.

The website is evolving. We've added a front-page section with timely variable star research news, and added several new forums. The Professional Survey was completed, and a summary placed on the website. Next up will be a revamping of some of the tools, such as the Light Curve Generator, so keep tuned.

Comet ISON is coming! While latest photometry indicate that it won't be as bright as some predictions, it is likely to still be a very bright comet. You have plenty of warning, so get out and enjoy the sky, both before and after perihelion passage! There never seems to be a lack of fun things to observe, so clear skies, everyone! ★

Ed. note: the Spanish language version of Arne's message can be found on page 10.

CONTENTS

From the Director's Desk	1
President's Message	1
New Membership Dues and Structure	3
There's Nothing Like a Bright Nova—Especially in Delphinus	4
From Your August (Actually, September) Young Stellar Objects (VSO) Section Leader	4
VSTAR User Manual	4
Upcoming Meetings	4
Outreach on the Cheap: the Fun Side of Being an Amateur Astronomer	5
Achieving the Rare: Robert F. Christy's Journey in Physics and Beyond	6
Talking about the AAVSO	6
Science Summary: AAVSO in Print	7
The Annual Adopt a Variable Star Program (AAVSP)	8
In Memoriam	9
Mensaje del Director	10
Mensaje del Presidente	11
Looking at Legacy Stars	12
Photoelectric Photometry Program Update	13
AAVSO Observing Campaigns Update	14
Julian Date/Moon Phase Calendars	17

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

belt tightening, and any contributions are greatly appreciated.

It has been a pleasure working with your director Arne Hendon, a true professional, as well as your dedicated council. I can assure you from personal observation that every council member takes their duties very seriously and with careful attention to detail, allowing the AAVSO to weather any storm large or small. I assure you your council members work very hard on your behalf, with frequent meetings, discussions, and many subcommittees to work on specific details of the organization. We also have many members who volunteer with many aspects of the organization. And, we know how truly dedicated our staff at headquarters are, serving the membership and observership admirably. With our annual meeting approaching, it is imperative that everyone look carefully over the ballot for new council members and vote. We are blessed we have so many willing to serve, and so many fine candidates to choose from (thanks to our nominating committee). In addition, Arne has announced that he plans on retiring in early 2015. A special search committee has been created to solicit and interview the best candidates to continue the fine AAVSO tradition of visionary directors so we remain vibrant and relevant over the next 100 years.

Janet Mattei had previously spent many years modernizing the AAVSO for the 21st century, and Arne has continued this constant evolution to keep the AAVSO relevant to the professional community by maintaining the quality and value of the database by constantly adapting and evolving the AAVSO. All AAVSO members/observers should know that our database is highly valued, and the time we spend collecting data is appreciated by all. Although many of us do this because we in fact enjoy our time under the stars, this activity takes great dedication and attention to detail, and is actually work to do it well. We should take great satisfaction that due to the quality of our work the data are highly prized and sought for in research. In addition to many of you continuing long-term monitoring of favorite stars (vital to evolutionary studies), the fact that we repeatedly receive requests for special monitoring or other assistance in research projects shows the trust and value the professional community has in the AAVSO members/observers. This is in no small measure due to the care and dedication and skill of our members/observers, as well as the built-in quality control measures that the AAVSO office strictly adheres to.

DIRECTOR	Arne A. Henden
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NEWSLETTER

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The *AAVSO Newsletter* is published in January, April, July, and October. Items of general interest to be considered for the *Newsletter* should be sent to ewaagen@aaavso.org. Photos in this issue courtesy of D. Starkey.

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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I thank you once more for the opportunity to serve, a memory I will cherish through the years. Let us welcome your new president, Dr. Jennifer "Jeno" Sokoloski, who will take over the reins of the AAVSO on October 12. I will remain on the council for one following year as a past president, and then happily return to being a proud member of the AAVSO for many years to come. ★

Ed. note: the Spanish language version of Mario's message can be found on page 11.

NEW MEMBERSHIP DUES AND STRUCTURE

MIKE SIMONSEN (SXN), AAVSO HQ, DEVELOPMENT

By the time you read this the new AAVSO membership and dues structure will be in place. For those of you who renewed for 2014 early, you get a discount! For everyone else and all new members, regular Annual dues will now be \$75.00 annually. The annual Sustaining membership rate will be raised to \$150.00. If you are an educator, student, have a limited income, or you are on a pension, your dues will be \$37.50 per year.

New members joining between now and the end of the year will pay a pro-rated rate for the remainder of 2013 based on the former \$60.00/year dues rate and the full \$75.00 for January 1 to December 31, 2014.

We are also introducing a new membership class for people from low-income and developing countries. If you reside in any country *other than* Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, the Korean Republic, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, or the United States, your annual dues will be only \$25.00.

If you reside in a low-income/developing country, the dropdown menu in the online membership application will show this option, allowing you to subscribe at this special reduced rate. We hope this option enables people from many poorer countries to join the AAVSO and have all the benefits of regular membership.

So, what are the exclusive benefits of membership in the AAVSO anyway? You can vote in elections and serve on the Council. You have access to the most recent year of the *Journal of the AAVSO* and the most recent issue of the *AAVSO Newsletter*. You also have access to the CCD Guide, VPHOT, VStar plugins, and the *AAVSO Solar Bulletin*. You may submit a proposal and acquire data using AAVSONet and access APASS, BSM, and AAVSONet epoch photometry. You may also attend meetings, CHOICE courses, and other classes and workshops at the discounted member rate.

One of the most important benefits is what your paid membership does for the AAVSO. By supporting the AAVSO with an Annual or Sustaining membership, you show us that what we do is important to you and to the science of variable star astronomy. Your membership dues help us pursue original research, provide research support to professional astronomers, and enable the collection and preservation of data. Your dues help us to maintain our website, and support astronomy education and public outreach. Your participation, through attending meetings, participating in our discussion forums, serving on the Council, contributing data to the AAVSO International Database, or submitting research papers to the *Journal of the AAVSO*, helps to strengthen the connection among observers, researchers, and educators in the variable star community. Our members have made the AAVSO the organization it is today. With your continued support we can meet all the challenges and opportunities of the twenty-first century. ★

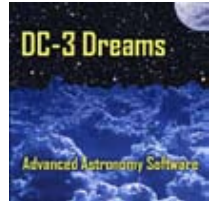
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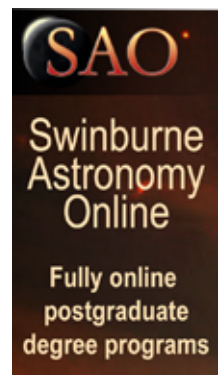
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www.dc3.com



qsimaging.com



<http://astronomy.swin.edu.au/sao>



www.sbig.com



www.skyandtelescope.com

unihedron

<http://unihedron.com>

THERE'S NOTHING LIKE A BRIGHT NOVA— ESPECIALLY IN DELPHINUS

JOHN R. PERCY, TORONTO, CANADA

Nova Delphini 2013 (V339 Del) did not go unnoticed up here, north of the border. It was an active topic of discussion and encouragement for the on-line discussion group of the Royal Astronomical Society of Canada (RASC)—the RASCals. Rick Huziak (HUZ, Saskatoon) points out, in the September 2013 *Bulletin of the RASC* that, of the 320 observers of the nova worldwide, 34 were Canadians—a good proportion. This suggests that VSOers can inspire and motivate others through this and other social media.

I'm reminded of Nova Delphini 1967 (HR Del), which peaked at third magnitude, one of the first variable stars that I met. It was observed spectroscopically and photometrically by my professional colleagues at the David Dunlap Observatory (1967 *JRASC* 61, 339, and visually and photometrically by my amateur colleagues (e.g. "Nova Delphini 1967", by Herbert A. Lange, (1970 *JRASC*, 64, 311). This was when I was beginning to be active in the RASC and its publications. I've always had a soft spot in my heart for the pretty little constellation of Delphinus, partly because of the small-amplitude red variable EU Del, which is one of my favorite stars. My computer's name, on our astro network, is Delphinus.

I've just begun a four-year term as Honorary President of the RASC, and one of my projects is to contribute a regular (more or less) column in the *JRASC*. The one that I am working on right now is entitled, predictably, "Variable Star Astronomy: A Pro-Am Partnership Made in Heaven"! ★

VSTAR USER MANUAL

SARA BECK (BSJ), AAVSO HEADQUARTERS

Thanks to ceaseless volunteer efforts by David Benn, we now have available a comprehensive *User Manual* to go along with his fantastic data analysis software—VStar. This 120-page document not only covers the basics of how to load data, plot light curves, create phase plots, and customize results, but it also explains how to use VStar to perform period analysis, develop models, and write your own scripts. The *Manual* follows a very clear, easy-to-read format with plenty of screenshots to illustrate the examples. By using VStar to work through the examples given in the *Manual*, readers will gain a better appreciation of just what VStar can do and how to do it.

To download your own free copy of VStar and the *VStar User Manual*, please visit the VStar Overview page on the AAVSO website:

<http://www.aavso.org/vstar-overview>

Many thanks also to Kristine Larsen for her editorial support and encouragement in this project. ★

FROM YOUR AUGUST (ACTUALLY, SEPTEMBER) YOUNG STELLAR OBJECTS (YSO) SECTION LEADER

MICHAEL POXON (POX), NORFOLK, UK

Don't know if I've ever really introduced myself. I live in a small village in the South-East of the UK, where it's reputedly more astronomer-friendly than other parts—but you'd never know it! I did my first degree in Linguistics but have been interested in the stars ever since the age of five (this is September 13th and I was 61 yesterday). I have never really observed anything apart from variable stars. Obsessive. Moi?

The AAVSO YSO section has already participated in several pro-am campaigns, with some running as we speak (see the Observing Campaigns update in this newsletter or visit the webpage <http://www.aavso.org/observing-campaigns>). With the contribution of the charts and sequences team, we now have charts for many of these interesting, and often active, stars. This is borne out by several of the objects appearing in AAVSO MyNewsFlashes being not just the 'usual suspects'. Sometimes we stargazers can be a conservative lot though slowly but surely more members are coming over to our way of thinking. Surely world domination cannot be far away.... ★

UPCOMING MEETINGS

The AAVSO's 2013 Annual Meeting is coming up in only a couple of weeks! The 102nd Annual Meeting will be held October 10–12, 2013, at the Hilton Hotel in Woburn, Massachusetts. This meeting will feature a special session on "The Role of Amateur Astronomers in the Age of Large-Scale Surveys" as well as the presentation of the Astronomical League's Peltier Award (<http://www.astroleague.org/al/awards/peltier/peltiers.html>) to one of our own long-time member/observers. The Peltier Award presentation will be followed by a special paper session populated by authors who are past award recipients.

We look forward to welcoming our members and friends to metro-Boston. For more detailed information and registration, please visit the AAVSO web site: <http://www.aavso.org/102nd-annual-meeting-aavso>

The AAVSO's 2014 Spring Meeting will be held jointly with the Society for Astronomical Sciences (SAS) and the Center for Backyard Astrophysics (CBA). This joint meeting will take place in Ontario, California, on Thursday, June 12, through Saturday, June 14. The AAVSO Council meeting will take place on Wednesday, June 11. 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 provides free shuttle service. Registration information will be posted on the AAVSO web site as it becomes available. For more details on the venue, please see *SAS Newsletter* Vol. 11 (http://www.socastrosci.org/images/SAS_Extra_2013Sept18.pdf).

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

OUTREACH ON THE CHEAP: THE FUN SIDE OF BEING AN AMATEUR ASTRONOMER

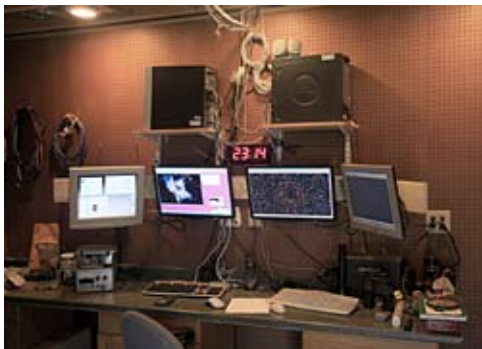
DONN STARKEY (SDB), AUBURN, INDIANA

At an AAVSO meeting in 2006, I met a lady named Mary Ann Kadooka. For those of you who don't know Mary, she is about five foot nothin' and pure personality. Actually, she has enough personality for two people. She makes people "want" to work for her. After five minutes of listening to her plea, she had me totally convinced that it was my destiny to help her with her mission. That mission was Hi Star. Hi Star (Hawai'i Student/Teacher Astronomy Research) was developed by Mary Kadooka at the University of Hawaii-Manoa in 2007 as a week-long outreach program for at-risk and underprivileged middle and high school students. Hi Star, which is a team effort, allows the students to learn math and physics concepts using astronomy as a vehicle. The students stay in dormitories on the Manoa campus, work in university laboratories, and learn under world-class Ph.D. astronomers. The goal is to have the students learn to conduct authentic research projects in preparation for the Hawai'i State Science and Engineering Fair. The program has been a great success. As of 2013, 123 thirteen- to seventeen-year old students (15% of them minority or at-risk) have passed through the Hi Star program.

The projects themselves are daunting: "Spectral Analysis of Time Dilation in Quasar Microvariability"; "Analyzing the Correlation Between Solar Activity and Global Temperatures"; "Bow shock formation and Exoplanet Hat-P-32b"; "Solar Tsunami: A Study of the Correlation Between Coronal Mass Ejections and Extreme Ultraviolet Waves"; "Spectral and Periodic Variation in Cataclysmic Variable System FO Aquarii."

Of the projects that the students worked on in 2012, 75% of the students left the program with a completed project. 70% entered their projects in the district Science Fair. 25% entered the state Science Fair. Two of the students won a trip to the International Science and Engineering Fair in Pittsburgh, Pennsylvania. Those are exceptional statistics. No wonder that Mary Kadooka won the 2006 AAVSO William Tyler Olcott Distinguished Service Award (<http://www.aavso.org/william-tyler-olcott-distinguished-service-award>).

So, what did Mary Kadooka want with me? Well, I had mentioned at the meeting that I was experimenting with a method of allowing remote access to my Auburn, Indiana, DeKalb Observatory, telescope, and CCD camera via the internet.



*The author's
DeKalb Observatory*



Hi Star session, University of Hawaii-Manoa

The interface is not automated. But it allows a telescope owner (me) to guide the remote operator (Hi Star students) via audio/video interaction so that the operator can get as near to a hands-on experience at a telescope without actually being there. We use a program called Mikogo (www.mikogo.com). The program is freely available on the internet. I start a session on the observatory computer in Indiana and invite the Hi Star student to join the session. The Hawaii student remotely logs onto the computer at the observatory in Indiana via the internet and has complete control of the telescope and the CCD camera at the Indiana observatory. I am able to see, on my screen, what the student is doing as they guide the mouse across the screen. We communicate via Skype with an audio/video connection. Because the observatory computer controls both the pointing of the mount and the CCD camera, the student has complete control of the system. Once I get them acquainted with the software (which happens amazingly fast) they are pretty much on their own except for me answering the occasional question. The beauty of the logistics is that when it is four p.m. in Hawaii, it is ten p.m. in Indiana and we are just starting to get into prime observing time. And because, as many of us know, so much of astronomy is waiting for the CCD camera to time out, I get to interact with the students, answer their questions about the equipment, talk about variable stars and the AAVSO, talk about the projects they are working on, or tell them what life is like living in the middle of a corn field in Indiana—a far cry from the paradise of Hawai'i. It usually takes two or three four-hour nights to get all of the students through the remote observing program. The best part of the process is that, because I already have the equipment, the only cost of the outreach program is my time. Once the students learn what a great resource the DeKalb Observatory can be, I often get requests from the students to take data for their projects. Since most of the students have already learned photometry techniques in the Hi Star classes, I just provide them with processed fits images and they do the photometric reductions themselves.

On two occasions, I have made the trip to Hawai'i to be at the "paradise end" of the internet connection. Mary has allowed me to mentor the students for the DeKalb Observatory remote observing sessions at the Hi Star camp. One of my sons is also an astronomer and, on those occasions, he runs the telescope in Indiana while I am at the Hawaii end. Mary works some kind of magic at Hi Star. On the first day of the session, I watch as these quiet, introverted, geeky, wide-eyed middle school students are overwhelmed by their surroundings. By the end of the week, they are working in groups, writing reports on Coronal Mass Ejection, composing songs about minor planets, and making PowerPoint presentations in front of the entire group. It is transformational!

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OUTREACH CONTINUED...

So, I have made the DeKalb observatory available to the Hi Star students every year since 2007. Every year, I tell Mary that I get so much more out of the program than the students do. I have met a lot of great students, many of whom I still share Facebook and e-mail connections with. One is now working on her Ph.D. in chemistry at University of Wisconsin. Another attended Stanford in computer science. My hope is that I have planted a seed in all of these students about the enjoyment of variable star observing and that someday, when their lives slow down a bit, they will also become AAVSO members. ★

ACHIEVING THE RARE: ROBERT F. CHRISTY'S JOURNEY IN PHYSICS AND BEYOND

JOHN R. PERCY, TORONTO, CANADA

I commend to you a newly-published biography of Robert F. Christy (1916–2012), an important but under-recognized figure in 20th-century physics and astrophysics: *Achieving the Rare*, by I.-J. Christy, his widow (World Scientific, 2013, ISBN 978-981-4460-24-8). Born in Canada in 1916, Christy (<http://aas.org/obituaries/robert-f-christy-1916-2012>) made seminal contributions in his 20s to the Manhattan Project, then worked tirelessly to oppose nuclear proliferation and promote the peaceful uses of atomic power. He was a student of Oppenheimer, a brilliant researcher, an inspiring teacher, and a skilled administrator, going on to serve as Provost of Caltech, and Interim President in 1977 when Caltech president Harold Brown went off to Washington to become Secretary of Defense. In the 1960s, he turned his attention to astrophysics, using the same hydrodynamical techniques used in weapons research to understand the pulsation of Cepheid and RR Lyrae stars. He published over thirty papers on this topic between 1962 and 1975; his paper on “The Calculation of Stellar Pulsation” (*Reviews of Modern Physics*, 36, 555 (1964)) is a classic. In his 50s, he met and married astrophysicist Inge-Juliana Sackmann (a fellow Ph.D. student of mine at the University of Toronto), and they had more than thirty happy years together until his death in 2012. This book is lovingly written, profusely illustrated and documented—a joy to read. ★

TALKING ABOUT THE AAVSO

ELIZABETH O. WAAGEN (WEO), AAVSO HQ

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

August 8, 2013—**Roger Kolman** (KRS, Glen Ellyn, Illinois) gave a question-and-answer talk on general astronomy to 47 people during a bus tour of the Canadian Rockies.

August 9, 2013—**Roger Kolman** gave a talk on the AAVSO and variable star astronomy to the people on their bus tour of the Canadian Rockies. A third talk was requested by the group but scheduling did not permit it. Roger writes: “Elaine and I have been on several group tours, and, in each case, the opportunity has arisen for me to give an off-the-cuff talk or talks on astronomy. I always see this as an opportunity to plant a seed in the minds of those on board which may be spread to children or grandchildren. Although it is a small effort and may or may not reap instant dividends for us, members of these tours come from across the country, and in some cases, the world. I encourage our members who take group tours to step forward and promote the AAVSO.”

August 16, 2013—**Jaime García** (GAJ, Rama Caida, Mendoza, Argentina) gave a talk about stars and planets (including variable stars) to 232 people in El Bolson, Río, Argentina.

September 20, 2013—**Roger Kolman** gave a talk on “Our Sun” that highlighted the AAVSO Solar and SID Programs to about 60 members of the Northwestern Suburban Astronomers in Hoffman Estates, Illinois.

October 12–14, 2013—**Jaime García** will present a workshop on variable stars during a Young Astronomers Meeting (for high school students) at the 4th EJA (Encuentro de Jóvenes Astrónomos, young astronomers meeting), in La Punta, San Luis, Argentina.

October 16, 2013—**Jaime García** will give a public talk on astronomy with telescope observations at the local College (Instituto de Educación Superior Dr. Salvador Calafat 9-007) in Gral Alvear, Mendoza, Argentina.

November 1, 2013—**Jaime García** will give a public talk about stars and planets (including variable stars) during the Week of the Planetarium of Rosario (Semana del Planetario) in Rosario, Santa Fe, Argentina.

Thank you, speakers!

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

SCIENCE SUMMARY: AAVSO IN PRINT

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

AAVSO data are constantly being used by researchers around the world in presentations and publications. Below is a listing of some of the publications that appeared 2013 June 28 through September 27 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>

- Jeremy Shears, “The British Astronomical Association and the Great War of 1914–1918”, (arXiv:1309.5205) [Sep 20, 2013]
- G. Kordopatis, G. Gilmore, M. Steinmetz et al., “The RAdial Velocity Experiment (RAVE): Fourth data release”, (arXiv:1309.4284) [Sep 17, 2013]
- Hilding R. Neilson, Richard Ignace, Gary D. Henson, “Long-term polarization observations of Mira variable stars suggest asymmetric structures”, (arXiv:1309.4117) [Sep 16, 2013]
- R. Lopez-Coto, O. Blanch Bigas, J. Cortina et al., “Search for TeV γ -ray emission from AE Aqr coincident with high optical and X-ray states with the MAGIC telescopes”, (arXiv:1309.2503) [Sep 10, 2013]
- L. Molnár, L. Szabados, R. J. Dukes et al., “Analysis of the possible Blazhko-effect Cepheid V473 Lyrae”, (arXiv:1309.2108) [Sep 9, 2013]
- M. E. Lohr, A. J. Norton, U. C. Kolb et al., “One, two or three stars? An investigation of an unusual eclipsing binary candidate undergoing dramatic period changes”, (arXiv:1309.1666) [Sep 6, 2013]
- Paula Szkody, Anjum S. Mukadam, Boris T. Gaensicke et al., “Hubble Space Telescope and Ground-Based Observations of V455 Andromedae Post-Outburst”, (arXiv:1309.1217) [Sep 5, 2013]
- E. Bányai, L. L. Kiss, T. R. Bedding et al., “Variability of M giant stars based on Kepler photometry: general characteristics”, (arXiv:1309.1012) [Sep 4, 2013]
- M. Hillen, T. Verhoelst, H. Van Winckel et al., “An interferometric study of the post-AGB binary 89 Herculis I Spatially resolving the continuum circumstellar environment at optical and near-IR wavelengths with the VLTI, NPOI, IOTA, PTI, and the CHARA Array”, (arXiv:1308.6715) [Aug 30, 2013]
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We thank the above researchers for including the AAVSO and its resources in their work, and for acknowledging the AAVSO in their publication. We urge all those writing for publication to include the word “AAVSO” in their list of keywords. ★

THE ANNUAL ADOPT A VARIABLE STAR PROGRAM (AAVSP)

ELIZABETH O. WAAGEN (WEO) AND MIKE SIMONSEN (SXM)

Near the end of this year we plan to launch a fundraising program designed to encourage small donations to the AAVSO from a large number of donors each year. The concept is very simple and has been used by other non-profits to raise money for children, animals, and other good causes: “adopt” the variable star of your choice for one year for a donation to the AAVSO of \$20.00 U.S. (tax-deductible in the U.S.). Our program will be called the Annual Adopt a Variable Star Program (AAVSP).

When you adopt a star for a year you will receive a pdf star chart of that variable star and at the end of your year you will receive a light curve of your star for that year. Whenever a light curve of your star is created on the Light Curve Generator during your year, your name as an “adopter” will appear in a list below the observer listing.

There is no limit to the number of variable stars a person can adopt (at \$20.00 per star). There is also no limit to the number of people who can adopt a specific variable star.

We will provide a web page with instructions on how to “adopt” any variable star listed in VSX for \$20.00. A simple web form will handle the adoptions and donations.



An associated web page will list all the adopted stars and the donors who have adopted them. The stars will be listed alphabetically by constellation. Stars with no GCVS designation will be listed at the end of the list in alphanumerical order.

To be perfectly clear, you are not buying a star, you are not becoming the owner of anything pertaining to that star (except bragging rights), we are not naming it after you or your cat or your dog—you are simply donating to the AAVSO in the name(s) of your favorite variable star(s).

Adopt a variable star as a gift to yourself! Adopt a variable star in celebration of a birthday/anniversary/wedding/adoption/graduation/promotion/retirement or other milestone!

If you have had a hard time finding a gift and time is running out, AAVSP adopted stars will make excellent last-minute stocking stuffers, New Year’s gifts....

Watch for the anticipated starting date in early December 2013! ★

AAVSO CENTENNIAL HISTORY !

Advancing Variable Star Astronomy: The Centennial History of The American Association of Variable Star Observers by Thomas R. Williams and Michael Saladyga, published by Cambridge University Press, is available through the AAVSO at a special reduced price.

Thanks to the generosity of a donor, the purchase price of each book sold through the AAVSO online store will go to benefit the AAVSO!

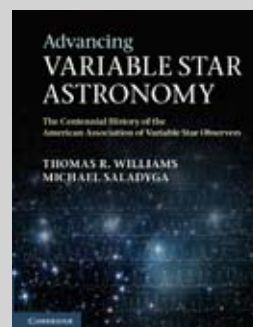
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IN MEMORIAM

MEMBERS, OBSERVERS, COLLEAGUES,
AND FRIENDS OF THE AAVSO



Lou Cohen

LOUIS COHEN

(CLF, Cambridge, Massachusetts), AAVSO member/observer and former Treasurer, died August 21, 2013, at age 75 from pancreatic cancer. As an observer, Lou contributed 129 variable star observations to the AAVSO International

Database between October 2001 and December 2003. As AAVSO Treasurer from 2000 to 2006, Lou was an invaluable advisor to Director Janet Mattei, Interim Director Elizabeth Waagen, and Director Arne Henden. Knowledgeable about investments, he also helped to find and select an investment management group that was appropriate to the AAVSO's needs at the time.

Lou had a varied career, as a computer engineer, product design analyst and consultant, author, composer, and teacher and mentor in math and astronomy and music. He began in 1959 in computers, where his work included the design and development of FORTRAN and COBOL compilers as well as operating systems, retiring at Digital Equipment Corporation (DEC) in 1992 as Consultant Engineer after 30 years in software development and product development strategy. During this time he became a nationally-known expert in Quality Function Deployment, a planning process that incorporates the wishes of the customer into product design to create successful and competitive products. Following retirement Lou was the author of the highly-referenced book *Quality Function Deployment: How to Make QFD Work for You* and was much sought-after as a QFD consultant by a broad range of companies.

In 1999, Lou designed and built a rooftop observatory at his home in Cambridge. When he gave up observing, he donated his equipment to the AAVSO. His 30-cm telescope, CCD, and other components are being incorporated into the AAVSONet Cohen/Menke Observatory (CMO, telescope ID C30) under construction in New Hampshire.

A musician and composer since childhood (harpsichord and early music, later new music),

Lou devoted much of his time from 2005 on to composing and performing experimental music for one to many instruments; his main instrument was the laptop computer, and he was actively composing and performing until very shortly before his death. His website has fascinating explanations of his precepts of composition and examples of his work (<http://www.jolc.net/index.html>). A 3-CD set of some of his works is available.

Lou was also committed to mentoring children in math and astronomy. He was a Project Astro partner and he ran after-school programs for talented children in Mathematics and Astrophysics.

In 2006 Lou was the recipient of the 38th AAVSO Merit Award "in recognition of his outstanding service as Treasurer and as a trusted, steady advisor to the Directors throughout a period of fiscal and administrative uncertainty; and his guidance in reinvesting and restructuring the AAVSO's endowments, assuring the Association's financial security. His excellence in service, volunteerism, willingness to share knowledge and mentor observers, and his valued observations exemplify the ideals of the AAVSO."

Lou was a devoted father and grandfather, and a stalwart friend, and the AAVSO cherishes his memory. We extend our deepest condolences to Lou's wife Jane, their family, and his friends and colleagues.



Margherita Hack

MARGHERITA HACK

(Trieste, Italy) died June 29, 2013, at the age of 91 after refusing surgery for heart trouble. An astrophysicist, her interests included stellar spectra and atmospheres, fundamental physics, high-energy astrophysics, and Cepheid variables.

She was a professor of astronomy at the University of Trieste 1964–1997, and Director of Trieste Observatory 1964–1987, the first woman to hold that post. With Otto Struve, she co-authored the text *Stellar Spectroscopy*. She was an early believer in the role of satellites in the future of astronomy. Among her professional memberships were the International Astronomical Union, the Italian Astronomical Society, the Italian Society of Physics, and the Royal Astronomical Society. She was well-known in the Italian media as a commentator for the public on astronomy and

physics. Aside from astronomy, she was a very vocal and successful advocate for women's rights, gay rights, and animal rights. Her honors included the Grand Dame Cross of the Order of Merit of the Italian Republic (Italy's highest honor) and the Gold Medal of the Italian Order of Merit for Culture and Art. Minor planet (8558) *Hack* is named in her honor. We extend sincere condolences to her husband, Aldo de Rosa, and to her many friends and colleagues.

ALBERT F. A. L. JONES, O.B.E. (JA, Nelson, New Zealand), AAVSO member, observer, and friend, died September 10, 2013, at age 93 of a lung problem after a fairly short period of declining health. Albert submitted 464,385 visual variable star observations to the AAVSO from 1960 through 2011 (observations made 1943 through 2011).



Albert Jones

Albert was the world's most prolific visual variable star observer, with over 500,000 careful observations made between 1943 and 2011. Blessed with excellent eyesight and powers of discrimination, his location in New Zealand made him an even more crucial observer because of the relatively small number of variable star observers in the Southern Hemisphere. He followed many of his stars for decades, creating priceless, uninterrupted light curves that in numerous cases contain all or much of the optical data in existence for those stars over those intervals.

He was interested in astronomy from boyhood and it became a fundamental part of him for the rest of his life, even as he earned his living as a miller in an oat cereal mill (as had his father), a grocery shop owner, and a worker in a car assembly factory.

He observed most types of variables, having started with CP Pup (Nova Pup 1942) and then the lists of variables sent to him by Frank Bateson of the Variable Star Section of the (then) New Zealand Astronomical Society (today's Royal Astronomical Society of New Zealand, RASNZ), adding many more variables to his observing

IN MEMORIAM CONTINUED...

schedule over the years at the direct request of astronomers engaged in research. He particularly liked unpredictable variables like cataclysmics and R CrB stars.

His interests also included comets, and he discovered two: C/1946 P1 (Jones) and, 54 years later, C/2000 W1 (Utsunomiya-Jones), co-discovered with Syogo Utsunomiya. He was also fortunate to be in the right place at the right time (as he said) and co-discovered SN 1987A in the Large Magellanic Cloud at visual magnitude 5.1 (it continued brightening to magnitude 2.5). Other discoveries included the outbursts of the recurrent novae T Pyx in 1966 and V3890 Sgr in 1990.

Albert contributed his variable star observations to the Variable Star Section of the RASNZ except for those stars not in the RASNZ observing program, as Frank Bateson did not feel he could archive them. They remained unarchived until he began sending them to the AAVSO after discussions with Director Janet Mattei, who assured him the AAVSO would welcome all of his observations, regardless of whether they were in the AAVSO observing program or not. He sent his data monthly, and at his death was still working on digitizing unarchived datasets and revising magnitudes on others as improved sequences became available. (The RASNZ and the AAVSO will work to ensure that all of his observations are digitized and archived for future researchers.) The bulk of Albert's data were sent to the AAVSO in 2006 for inclusion in the AAVSO International Database as part of the entire digitized RASNZ variable star database that was kindly supplied by archivist Ranald McIntosh after discussions between the RASNZ and Director Arne Henden.

Albert was the recipient of every AAVSO Observer Award for contributing visual variable star observations from the 25,000 through 450,000 level—we had to keep creating new award levels to match his ongoing contributions! In addition to AAVSO Observer Awards, Albert received the AAVSO Director's Award in 1997, and the 41st AAVSO Merit Award in 2008 "for his dedicated contributions to variable star astronomy for over 60 years, including over 500,000 visual observations

of Southern Hemisphere stars, providing decades of uninterrupted coverage; contributions to Southern comparison star sequences; research collaborations with professional astronomers, providing valuable data and insight into target variable star behavior; sharing his meticulous observations with the Royal Astronomical Society of New Zealand, and with the AAVSO for worldwide distribution; mentoring countless new observers, particularly in New Zealand, with good humor, patience, and grace; and inspiring variable star observers worldwide." In 2011, Albert was made an Honorary member of the AAVSO.

Albert was the recipient of awards or other honors from many organizations, institutions, and governments, including being appointed a member of the Order of the British Empire (O.B.E.) for services to astronomy. He was also made a member of the International Astronomical Union, one of a tiny handful of amateur astronomers—if not the only one—so recognized. In 2004 Victoria University of Wellington recognized his contributions by awarding him an honorary Doctor of Science degree. Minor planet (3152) *Jones* was named in his honor. His wonderful wife of 29 years, Carolyn, was tremendously encouraging of Albert in his astronomy, and in recognition minor planet (9171) *Carolyn* was named in her honor.

Outside of astronomy, Albert's interests included nature and hiking, and in more recent years computers and the University of the Third Age (U3A), a discussion group in Nelson he helped found for retired/older people with inquiring minds.

For a detailed appreciation of Albert's many contributions to astronomy, please see his obituary published in the *Newsletter of the Royal Astronomical Society of New Zealand* at (<http://www.rasnz.org.nz/enews/enews.pl/?sel=1309#1>).

Modest and unassuming, kind and good-natured, having great patience and a wonderfully droll sense of humor, Albert was a joy to know. We send our heartfelt condolences to Albert's beloved Carolyn, their families, and friends and colleagues.

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

MENSAJE DEL DIRECTOR ARNE A. HENDEN (HQA)

La gran noticia ha sido Nova Delphini 2013 (V339 Del), que entró en erupción el 14 de agosto. Alcanzó un pico alrededor de magnitud visual 4.3 y, al momento de escribir esta columna había bajado hasta aproximadamente magnitud 8.3. Esto la clasifica como una nova rápida; los espectros también indican que pertenece a la clase de novae de FeII. Lo que me parece destacable es la respuesta tan entusiasta al pedido de observaciones. Recibimos alrededor de 30.000 reportes visuales, PEP, DSLR, y CCD (¡de 453 observadores!) con una muy buena cobertura temporal. Ha sido divertido seguir la evolución de este objeto y pensar en cuándo finalmente bajará de brillo.

Otro aspecto destacable del monitoreo de la nova ha sido el maravilloso trabajo espectroscópico llevado a cabo por el grupo Astronomical Ring for Access to Spectroscopy (ARAS), con sede en Europa. Han venido tomando centenares de espectros, algunos de muy alta resolución, siguiendo la evolución de las líneas espectrales. Este es un buen ejemplo de cómo los espectroscopistas aficionados van a ser importantes en el monitoreo de futuros objetos transitorios.

BSM_Berry también ha evolucionado. Gary Walker ha construido una cúpula para el telescopio en el techo de HQ, y hemos estado reconfigurando la red para darle el uso más efectivo a este nuevo instrumento. BSM_Berry ha tomado miles de imágenes en apoyo de la campaña de V339 Del y muchas de ellas ya se encuentran en la base de datos internacional de AAVSO (AID). A medida que vayamos calibrando el sistema, reduciremos de nuevo la fotometría de la nova para mejorarla.

Dos estudiantes se unieron al staff de HQ durante el verano. Shouvik Battacharya (nativo de la India) llegó a nosotros desde la Universidad de Minnesota y me ayudó a procesar algunos de los datos de APASS para la publicación de la versión 8. Anisha Sharma (nativa de Nepal), recién graduada del Colegio Bennington en Vermont, nos ayudó a procesar datos de AAVSONet y trabajó en un proyecto de archivos de novae conmigo. Estos dos asistentes del programa Margaret Mayall fueron muy eficaces y nos ayudaron más allá de estos proyectos y fue muy divertido tenerlos por aquí.

CONTINUED ON NEXT PAGE

MENSAJE DEL DIRECTOR CONTINUED...

La parte triste de este verano fue el fallecimiento de dos amigos—Lou Cohen y Albert Jones. Lou fue nuestro tesorero por varios años y también fue durante mucho tiempo un observador CCD. Al retirarse de sus tareas en la AAVSO, dedicó su vida a componer música. Todos conocían a Albert, y su actitud alegre tan contagiosa se extrañará con dolor. Fue un honor para mí haberme encontrado con él en mis viajes a Nueva Zelanda.

Se acerca el final para el estudio de variables cataclísmicas del HST—la última estrella está en cola de espera para ser observada. Pronto se publicarán diversos papers acerca de estos objetos, con muchos agradecimientos por el duro trabajo realizado por varios observadores de AAVSO al monitorear esas CVs a la espera de erupciones. GAIA ya está a la vuelta de la esquina, y requerirá de la ayuda de varios aficionados que sigan sus objetos transitorios durante los próximos años. En cambio, Kepler, ha concluido su misión, y todo seguimiento de los objetos interesantes que haya encontrado tendrá que ser llevado a cabo por la comunidad desde Tierra.

El sitio web está evolucionando. Hemos agregado una sección a la portada con noticias actualizadas de investigación en estrellas variables y agregado varios foros. El Relevamiento Profesional se completó y un resumen se colocó en el sitio web. Próximamente habrá una remodelación de algunas de nuestras herramientas, tales como el Generador de Curvas de Luz, así que estén atentos.

¡El cometa ISON se acerca! Mientras que las últimas mediciones fotométricas indican que no será tan brillante como se preveía, aún así es probable que sea un cometa muy brillante. Ya están avisados con tiempo, así que salgan y disfrútenlo, tanto antes como después de su pasaje por el perihelio. Parece que nunca faltan cosas interesantes para observar, así que, ¡cielos claros para todos! ★

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.

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

MENSAJE DEL PRESIDENTE MARIO MOTTA, M.D. (MMX)

Se aproxima nuestro Encuentro Anual 2013 y con él, también, el fin de mi mandato como Presidente de AAVSO. Ha sido para mí un gran honor y un placer servir a la AAVSO, de este modo, durante estos últimos dos años. Tenemos una organización con algo más de 100 años de antigüedad que está llena de historia y de logros, y que está bien posicionada para su próximo siglo de vida. Somos una entidad de colaboración entre aficionados y profesionales y un grupo dedicado a la ciencia por ciudadanos y lo somos desde mucho antes que estos términos se pusieran de moda. Nuestra excelencia es tal que nuestros datos son regularmente consultados y frecuentemente utilizados en las investigaciones realizadas por astrónomos profesionales y por otras personas.

Hemos tenido nuestra parte de dolores de crecimiento en los últimos 100 años, superando numerosas crisis y obstáculos. Los últimos años han demostrado ser no menos desafiantes. Nuestros fondos sufrieron un golpe importante con la crisis económica mundial, desafiando nuestra estabilidad financiera. Con el arduo trabajo tanto de su Director y como de un Consejo muy activo y atento, hemos sobrevivido a esta última crisis. Todavía, por supuesto, estamos con el cinto significativamente ajustado y cualquier contribución adicional será muy apreciada.

Ha sido un placer trabajar con el Director Arnie Henden, un verdadero profesional, así como con un Consejo dedicado. Les puedo asegurar, a partir de mi observación personal, que cada consejero toma muy en serio sus deberes y con mucha atención a los detalles, lo que permite a AAVSO capear cualquier temporal, grande o pequeño. Les aseguro que los miembros del Consejo trabajan muy duro en su nombre, con frecuentes reuniones, discusiones y muchos subcomités organizados para trabajar en los detalles específicos de la organización. También tenemos muchos miembros que trabajan como voluntarios en muchos aspectos de la organización. Y sabemos, verdaderamente, cuán dedicado es nuestro personal en la sede, poniéndose al servicio de miembros y observadores en forma admirable. Como nuestra Reunión Anual se acerca, es imperativo que

todos miremos atentamente la boleta electoral para elegir los nuevos miembros del Consejo y votemos. Tenemos la suerte de tener tantos miembros dispuestos a servir y muchos candidatos buenos para elegir (gracias a nuestro comité de nominación). Además, Arne ha anunciado que planea retirarse a principios de 2015. Se ha creado un comité especial de búsqueda para solicitar y entrevistar a los mejores candidatos para continuar con la excelente tradición de la AAVSO de tener directores visionarios para seguir siendo vibrantes y relevantes en los próximos 100 años.

Janet Mattei había pasado anteriormente muchos años modernizando a AAVSO para el siglo XXI, y Arne ha seguido esta evolución constante para mantener a AAVSO relevante para la comunidad profesional, manteniendo la calidad y el valor de la base de datos adaptando y evolucionando a AAVSO en forma constante. Todos los miembros y observadores de AAVSO deben saber que nuestra base de datos es muy valorada, y el tiempo que pasamos recogiendo datos es apreciado por todos. Aunque muchos de nosotros hacemos esto porque, de hecho, disfrutamos nuestro tiempo bajo las estrellas, esta actividad conlleva a una gran dedicación y atención al detalle y es, en realidad, un verdadero trabajo hacerlo bien. Debemos sentir una gran satisfacción que, debido a la calidad de nuestro trabajo, los datos son muy apreciados y buscados en la investigación. Más allá de que muchos de ustedes continúan el seguimiento a largo plazo de sus estrellas favoritas (vital para estudios evolutivos), el hecho que recibimos repetidamente solicitudes de control especial o de otro tipo de asistencia en proyectos de investigación demuestra la confianza y el valor que la comunidad profesional otorga a los miembros y observadores de AAVSO. Esto es, en gran medida, debido a la atención, dedicación y habilidad de nuestros miembros y observadores, así como a la estricta función de control de calidad que se realiza en la sede de AAVSO.

Le doy las gracias una vez más por la oportunidad de servir, un recuerdo que atesoraré través de los años. Demos la bienvenida a nuestra nueva presidente, la Dra. Jennifer “Jeno” Sokolowski, que tomará las riendas de AAVSO el 12 de octubre. Me quedará en el Consejo por un año más como ex-presidente, y luego volveré contento a ser un orgulloso miembro de la AAVSO durante muchos años por venir. ★

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

We encourage observers to keep a smaller subset of variables at the top of their observing planning via the Legacy and Program lists for LPVs and CVs (see <https://sites.google.com/site/aavsolpvsection/Home/lpv-files> for the LPV lists, and <https://sites.google.com/site/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 fifteen best-covered stars of the LPV Legacy program, as measured by number of nights observed, 2013 June 16 through September 15:

Name	Con	R.A.(J2000)	Dec.(J2000)	$N_{(vo)}$	$N_{(von)}$	$N_{(co)}$	$N_{(con)}$
CH Cyg	Cyg	19:24:33.06	+50:14:29	66	91	8	60
khi Cyg	Cyg	19:50:33.91	+32:54:50.6	79	91	7	31
AF Cyg	Cyg	19:30:12.84	+46:08:52	58	88	0	0
U Del	Del	20:45:28.23	+18:05:24	51	87	3	30
W Cyg	Cyg	21:36:02.49	+45:22:28.4	58	86	0	0
Z UMa	UMa	11:56:30.22	+57:52:17.6	70	86	0	0
EU Del	Del	20:37:54.7	+18:16:06.3	47	85	3	29
g Her	Her	16:28:38.54	+41:52:53.9	42	84	1	23
R Lyr	Lyr	18:55:20.1	+43:56:45.8	37	84	2	26
X Oph	Oph	18:38:21.12	+08:50:02.7	39	83	2	8
X Her	Her	16:02:39.16	+47:14:25.2	35	82	2	23
T Her	Her	18:09:06.2	+31:01:16.2	52	80	6	23
V Boo	Boo	14:29:45.27	+38:51:40.6	36	78	2	7
miu Cep	Cep	21:43:30.49	+58:46:48	39	78	1	1
RT Cyg	Cyg	19:43:37.77	+48:46:41.3	39	78	4	16

$N_{(vo)}$ = 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

Twelve least-observed stars of the LPV Legacy program for the quarter 2013 June 16 through September 15:

Name	Con	R.A.(J2000)	Dec.(J2000)	$N_{(vo)}$	$N_{(von)}$	$N_{(co)}$	$N_{(con)}$
R Lep	Lep	04:59:36.34	-14:48:22.5	3	5	0	0
R LMi	LMi	09:45:34.27	+34:30:42.8	4	5	0	0
W Ori	Ori	05:05:23.71	+01:10:39.3	4	5	0	0
Z Pup	Pup	07:32:38.05	-20:39:29.2	1	1	1	5
X Aur	Aur	06:12:13.38	+50:13:40.4	4	4	0	0
UU Aur	Aur	06:36:32.83	+38:26:43.8	2	2	0	0
RX Lep	Lep	05:11:22.84	-11:50:57.1	1	2	0	0
W Tau	Tau	04:27:57.18	+16:02:36.1	3	2	1	1
R Cnc	Cnc	08:16:33.82	+11:43:34.5	1	1	0	0
X Cnc	Cnc	08:55:22.87	+17:13:52.5	1	1	0	0
S CMi	CMi	07:32:43.07	+08:19:05.1	0	0	0	0
R Gem	Gem	07:07:21.27	+22:42:12.7	0	0	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 June 16 through September 15:

Name	Con	R.A.(J2000)	Dec.(J2000)	$N_{(vo)}$	$N_{(von)}$	$N_{(co)}$	$N_{(con)}$
T CrB	CrB	15:59:30.16	+25:55:12.6	72	91	4	8
CH Cyg	Cyg	19:24:33.06	+50:14:29.1	66	91	8	60
SS Cyg	Cyg	21:42:42.78	+43:35:09.8	86	91	20	79
AH Her	Her	16:44:10.01	+25:15:02	30	80	24	88
AG Dra	Dra	16:01:41.01	+66:48:10.1	57	84	8	61
Z Cam	Cam	08:25:13.18	+73:06:39	25	82	3	62
EM Cyg	Cyg	19:38:40.11	+30:30:28.4	24	78	9	82
RS Oph	Oph	17:50:13.16	-06:42:28.5	27	78	3	56
BF Cyg	Cyg	19:23:53.51	+29:40:29.2	27	78	4	13
VW Vul	Vul	20:57:45.06	+25:30:25.7	5	31	9	77
V426 Oph	Oph	18:07:51.68	+05:51:47.8	11	54	9	76
RU Peg	Peg	22:14:02.57	+12:42:11.4	23	73	4	16
HP Nor	Nor	16:20:49.56	-54:53:22.8	2	3	1	73
RX And	And	01:04:35.52	+41:17:57.8	36	72	10	50
YY Her	Her	18:14:34.18	+20:59:20.9	15	72	5	11

CONTINUED ON NEXT PAGE

LEGACY STARS
CONTINUED...

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

Name	Con	R.A.(J2000)	Dec.(J2000)	N(vo)	N(von)	N(co)	N(con)
TV	Col	05:29:25.46	-32:49:04.1	0	0	0	0
SS	Lep	06:04:59.13	-16:29:03.9	0	0	0	0
V344	Ori	06:15:18.95	+15:31:00	0	0	0	0
KR	Aur	06:15:43.91	+28:35:09	0	0	0	0
CZ	Ori	06:16:43.23	+15:24:11.5	0	0	0	0
HL	CMa	06:45:17.21	-16:51:34.7	0	0	0	0
IR	Gem	06:47:34.51	+28:06:23.5	0	0	0	0
AW	Gem	07:22:40.74	+28:30:16.9	0	0	0	0
SV	CMi	07:31:08.45	+05:58:49.1	0	0	0	0
UY	Pup	07:46:31.25	-12:57:09.1	0	0	0	0
BV	Pup	07:49:05.25	-23:34:00	0	0	0	0
RX	Pup	08:14:12.3	-41:42:29	0	0	0	0
CC	Cnc	08:36:19.17	+21:21:05.5	0	0	0	0
EG	Cnc	08:43:04.02	+27:51:49.7	0	0	0	0
AK	Cnc	08:55:21.23	+11:18:15.1	0	0	0	0
DI	UMa	09:12:16.19	+50:53:54.2	0	0	0	0
AG	Hya	09:50:29.75	-23:45:17.2	0	0	0	0
V2051	Oph	17:08:19.11	-25:48:30.3	0	0	0	0
V1830	Sgr	18:13:50.65	-27:42:21	0	0	0	0
V4021	Sgr	18:38:14.88	-23:22:47.1	0	0	0	0
NQ	Vul	19:29:14.75	+20:27:59.7	0	0	0	0

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

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

The third quarter of 2013 starting July 1 has been a productive one for the AAVSO's group of photoelectric observers. Altogether, nine observers observed 32 different stars, and contributed 772 photoelectric observations between July 1 and September 26 (when this report was written).

Once again, PEP pioneer Gerald Persha (PGD) was the most prolific observer of the quarter, with 596 observations in B, V, and Rc filters. He's been an active observer of Nova Delphini 2013, along with a number of other stars. Our next-most prolific observer is a new member of the PEP community, Tom Calderwood (CTOA), who installed one of the AAVSO's loaner SSP-3s on a 61-cm university telescope in central Oregon this spring. We also had 39 observations from PEP Section chair Jim Fox (FXJ), 32 from Charles Calia (CCB), 22 from John Martin (UIS01), 16 from Pat Rochford (RPT), 13 from Adrian Ormsby, nine from James Kay (KJMB, another new observer), and one from Erwin Van Ballegoij (BVE). All of the observations this quarter were optical, and primarily B and V; we haven't received any infrared observations as of the time of writing.

Nova Delphini 2013 has been the most-observed target, with 403 observations spread among B, V, and Rc filters. This was far and away the most-observed target among PEP observers, just as it currently is among CCD and visual observers. The PEP data for this star are transformed to a standard system and thus will be very useful for establishing a calibration for this nova.

After Nova Del 2013, our next most popular stars for the quarter were: g Herculis (66 observations), X Herculis (57), P Cygni (36), R Lyrae (36), CH Cygni (25), AC Herculis (20), EU Delphini (20), U Delphini (20), AB Cygni (14), V395 Vulpeculae (13), V2048 Ophiuchus (9), and W Bootis (9). A dozen more stars were observed more than once during the quarter.

We note the increasing number of observations being made in filters beyond Johnson V—this is great! The original AAVSO PEP program was established using only the Johnson V filter, but a number of observers have multiple filters and the ability to do their own calibrations and data reductions. We still have the PEPobs function in WebObs available for V-only PEP observations, but we 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) or AAVSO headquarters.

I noted Orion high in the south when I left for work a few mornings ago, which reminded me again to push PEP observations of Betelgeuse (α Ori). This star is a fascinating one, and one of the few whose surface we've managed to image directly—from space at least. It's a difficult star for visual, CCD, and DSLR observers to observe with better than 10 percent accuracy, but our PEP light curves over the long term show its variability quite clearly. It's a great target for early birds, and will be for everyone else by the time the next newsletter is issued in January 2014.

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! ★

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. Discussion about observing targets frequently takes place in the AAVSO online forums (<http://www.aavso.org/forums>).

Campaigns concluded since July 1, 2013

Beginning in June, AAVSO observers were invited by Dr. Noel Richardson (Université de Montréal) and colleagues to participate in an international pro-am on the Wolf Rayet stars **WR 134**, **WR 135**, and **WR 137** (*AAVSO Alert Notice 486*). This invitation was somewhat unusual for the AAVSO until recently in that the primary request was for spectroscopy, although filtered photometry was also requested. AAVSO observations were needed to support ground-based spectroscopy and MOST observations being carried out through September 17. The campaign is now concluded, and all participating observers are urged to reduce and send their data (optical to the AAVSO, spectroscopic as indicated on the campaign website linked to in the Alert Notice).

Campaigns initiated since July 1, 2013

Dr. Hans Moritz Guenther (Harvard-Smithsonian Center for Astrophysics) requested snapshot CCD and visual observations of the classical T Tauri star **AA Tau** 2013 August 1 through September 20 in order to determine the state of AA Tau for scheduling XMM-Newton observations (*AAVSO Alert Notice 488*). For decades AA Tau showed regular eclipse events as the accretion funnel connecting the thick disk and the star rotated through our line of sight. Recently, however, that behavior has changed completely, and the x-ray observations are part of a collaborative study into this behavior change. To date, 11 observers have contributed 231 visual and multicolor observations—thank you very much! Please continue observations of AA Tau at least through November.

Dr. William Herbst (Wesleyan University) and Rachel Pederson (Bates College) requested optical monitoring of the Orion variable **T Ori** during the month of September 2013 to assist in a study of the star's variability of several magnitudes, the cause of which is still not fully understood. Nightly snapshot CCD and visual observations were requested for correlation with high-resolution spectroscopy (*AAVSO Alert Notice 490*). They are beginning the analysis phase of the research, which will take months. To date, 24 observers have contributed 245 visual and multicolor observations. Dr. Herbst thanks everyone who has contributed so far very much, and asks us please to continue observations of T Ori through the observing season, into March–April 2014.

Campaigns in progress

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*) continues. **U Gem** has been at minimum for an unusually long time, and since becoming observable in late August has not had an outburst. *Please begin monitoring U Gem again as soon as possible from your location.* Dr. Shara has one more set of HST observations left, and he writes: "The AAVSO campaign was, and

remains, enormously helpful... It's CRITICAL to know of [the next eruption], and to know when U Gem returns to quiescence. We will observe it with HST two days later."

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, with the observing season on the 7th and 9th magnitude V stars **BD+20 307**, **HD 15407A**, and **HD 23514** under way (*AAVSO Alert Notice 482*). The purpose of their request for V photometry is to determine the non-variability of the targets so that they may rule out stellar variability when analyzing system changes (which would then be due to changes in the disk material) and correlating their Spitzer observations. The comparison star for HD 15407A has been reported as a possible variable, so an updated comp star recommendation for this target will be forthcoming shortly. Please keep these stars in your observing calendars!

Beginning in June, Dr. Andrea Dupree (Harvard-Smithsonian Center for Astrophysics) requested visual and V observations of the symbiotic variable **AG Dra** for correlation with her Chandra x-ray and HST ultraviolet observations (*AAVSO Alert Notice 485*). The last of the satellite observations have just been concluded, and AAVSO observations throughout the 2013 observing season are very important for providing a good post-observations light curve for correlation with the satellite data.

Darryl Sergison's (University of Exeter) campaign to study the environments of **six T Tauri stars** (*AAVSO Alert Notice 473*) continues. Coverage of the first three stars—**RY Tau**, **DN Tau**, and **DR Tau**—should be resumed now that Taurus is observable again. This campaign runs through 2013 at least, and the other three stars will be announced when they have been selected.

Dr. Margarita Karovska's HST and Chandra campaign on **CH Cyg** (*AAVSO Alert Notice 454* and *AAVSO Special Notices #267, 294, and 320*) continues and has been extended through the 2013 observing season at least. Dr. Karovska is grateful for all of the coverage so far and urges continued coverage, especially in V and B. Since this campaign began in March 2012, 170 observers have contributed 16,694 visual and multicolor observations!

Dr. Eric Mamajek's campaign on **J1407 (1SWASP 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*).

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). After dipping to 10.5 visual (A. Plummer, PAW, Linden, NSW, Australia) in October 2011, it brightened to 9.605V (J. Hamsch, HMB, Mol, Belgium) in May 2013, dropped to 9.919V (HMB) at the beginning of September, and now appears to be brightening again (Figure 1). Please continue your coverage of this interesting variable.

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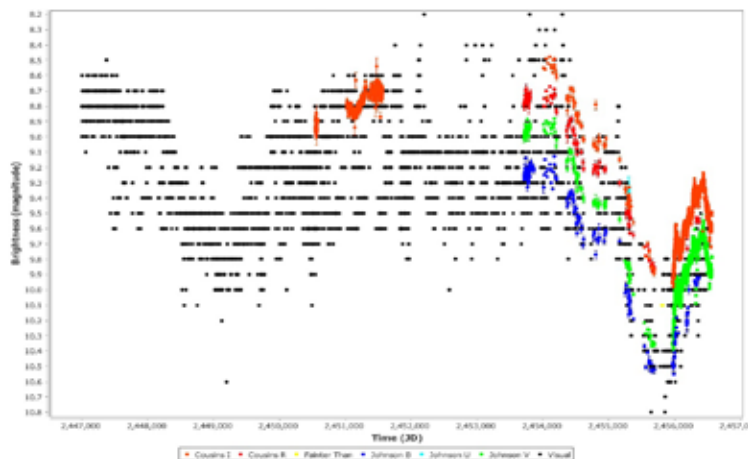
CAMPAIGNS UPDATE
CONTINUED...

Figure 1. AAVSO light curve of the luminous blue variable S Dor JD 2447000–2456564 (23 July 1987–29 September 2013). 25 observers worldwide have contributed 8,010 observations to this light curve. (VStar light curve)

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.

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 thirteen 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). Thanks to the efforts of AAVSO observers worldwide who monitored the targets to be sure they would be faint enough for HST to observe safely, as of the end of September 2013, 39 targets from the original list of 40 have been successfully observed by the Hubble Space Telescope Cosmic Origins Spectrograph (HST COS)! *The final target on the campaign list, SDSS J100658.40+233724.4, will be observed in March 2014, so observers may stand down from this campaign until then.* Dr. Gaensicke and colleagues continue to be very grateful for the excellent AAVSO support that is enabling the consortium’s research, and they look forward to this fruitful collaboration continuing.

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 *JAASO*, Vol. 35, p. 327; article viewable at <http://adsabs.harvard.edu/abs/2007JAVSO...35..327S>).

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

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

Novae

One galactic nova was discovered between July 1 and September 30, and it has been a fun one! **V339 Del = Nova Delphini 2013 = PNV**

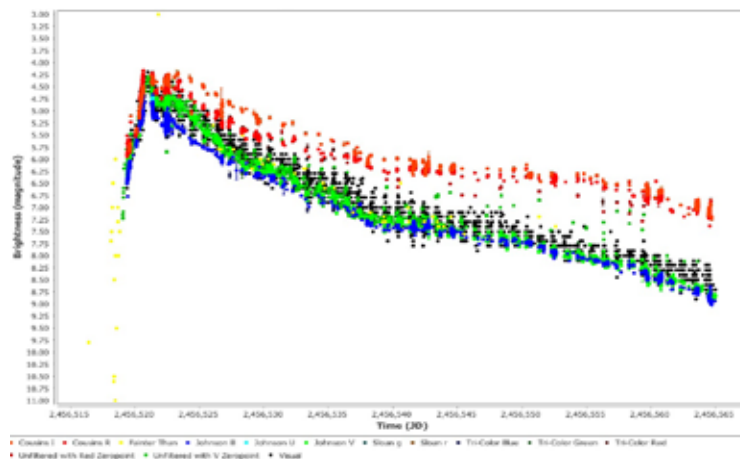


Figure 2. AAVSO light curve of the fast nova V339 Del = Nova Del 2013 JD 2456516.4146–2456565.49921 (11 August 2013–29 September 2013). 392 observers worldwide have contributed 30,477 observations to this light curve. (VStar light curve)

J20233073+2046041 was discovered by Koichi Itagaki of Japan at magnitude 6.8 U on 2013 Aug. 14.584 UT (AAVSO Alert Notice 489). It has been determined to be a fast nova of the Fe II class. Nova Del 2013 brightened to visual magnitude 4.3 and has been an extremely popular observing target around the world. 392 AAVSO observers worldwide have contributed 30,477 multicolor and visual observations through September 29 that show the nova fading, at magnitude 8.904 V on 2013 September 29.9992 UT (AHM, H. Adler, Danvers, Massachusetts, USA) (Figure 2).

Photometric observers are concentrating on determining whether V339 Del has begun to exhibit pulsations. Nova specialist and scientific advisor to the AAVSO Novae Forum (and AAVSO 1st Vice President) Dr. Jenő Sokolowski (Columbia University) writes: “Thank you very much for all your efforts on V339 Del! Your work is potentially very useful for addressing a general question that might have particular relevance for V339 Del: What happens to the accretion disk after a nova explosion? More specifically: 1) When does the accretion disk reform (assuming that it was destroyed by the eruption)? and 2) Is an accretion disk responsible for the bipolar structure that is seen from some novae?”

“Since cataclysmic-variable-like optical flickering is one signature of an accretion disk, the appearance of such flickering could be a crucial piece of information for understanding how and when the disk reforms. For V339 Del, if gamma-ray production ends up having something to do with bipolar structure or jets, it would be invaluable to know whether the bipolar outflows could have been produced by an accretion disk (as in active galaxies, protostars, etc.). Recording the turn-on of optical flickering could thus be very important for V339 Del.

“Since V339 Del is well past the ‘fireball’ stage, and our view down to the accretion region should now be clear, any detection of optical flickering—or constraints on the amplitude of such flickering—is now meaningful. But since many types of systematic error can mimic stochastic brightness variations like those from an accretion disk, however, it would be best to have simultaneous

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CAMPAIGNS UPDATE CONTINUED...

light curves from multiple observers. In other words, time series from two different observers on the same night would be more valuable than two nights with time series from only one person each night. Since I don't know if or when fast variations might be expected to appear, I cannot really argue that people should be spending their time searching for them every night. Perhaps looking for fast variations once every week or two would be more manageable (and still very useful).

“Finally, in addition to CV-like disk flickering, any periodic variations would of course be excellent for revealing whether V339 Del is magnetic (i.e., a polar or intermediate polar) and uncovering instabilities in the system.”

Visual and photometric observers, please keep up the excellent coverage of this exciting nova!

V1533 Sco = Nova Scorpii 2013, a fast nova discovered 2013 June 3 (see *AAVSO Alert Notice 484*) and announced in the July *AAVSO Newsletter*, reached a maximum brightness of 11.67V (SPET, P. Starr, Coonabarabran, NSW, Australia), and as of 2013 September 11.4512 UT was magnitude 19.575 V (HDHA, D. Hinz, Fairfax Station, Virginia, USA). 13 AAVSO observers worldwide have contributed 232 multicolor and visual observations through September 29.

With all the campaigns and stellar activity, 2013 continues to be a very active year—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! ★

GET THE LATEST CAMPAIGN NEWS...

Subscribe online to receive *AAVSO Alert Notices* and *Special Notices* directly to your email's inbox. Stay on top of stellar activity and get detailed information on current and upcoming observing campaigns by visiting

<http://www.aavso.org/observation-notification>

to subscribe today!

Sign up for the AAVSO online forums to read about or contribute to discussion on observing campaign targets. Postings will be sent to you by email and will also be available for viewing online. Visit <http://www.aavso.org/forums>

JULIAN DATE / MOON PHASE CALENDARS

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

OCTOBER 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 6567	2 6568	3 6569	4 6570	5 6571
6 6572	7 6573	8 6574	9 6575	10 6576	11 6577	12 6578
13 6579	14 6580	15 6581	16 6582	17 6583	18 6584	19 6585
20 6586	21 6587	22 6588	23 6589	24 6590	25 6591	26 6592
27 6593	28 6594	29 6595	30 6596	31 6597		

NOVEMBER 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 6598	2 6599
3 6600	4 6601	5 6602	6 6603	7 6604	8 6605	9 6606
10 6607	11 6608	12 6609	13 6610	14 6611	15 6612	16 6613
17 6614	18 6615	19 6616	20 6617	21 6618	22 6619	23 6620
24 6621	25 6622	26 6623	27 6624	28 6625	29 6626	30 6627

DECEMBER 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 6628	2 6629	3 6630	4 6631	5 6632	6 6633	7 6634
8 6635	9 6636	10 6637	11 6638	12 6639	13 6640	14 6641
15 6642	16 6643	17 6644	18 6645	19 6646	20 6647	21 6648
22 6649	23 6650	24 6651	25 6652	26 6653	27 6654	28 6655
29 6656	30 6657	31 6658				

Moon calendars courtesy StarDate online

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

THE AAVSO MENTOR PROGRAM

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

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

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

Visit the AAVSO mentor program webpage:

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



BY POPULAR DEMAND!

A set of twenty pdf 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†	(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†	\$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.

†See page 3 in this Newsletter for qualifying countries.

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

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

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

Contributions (see last page for descriptions):

AAVSO Building Fund	\$ _____
Janet A. Mattei Research Fellowship	\$ _____
Margaret Mayall Assistantship	\$ _____
Member Sponsorship Fund	\$ _____
AAVSO General Fund	\$ _____

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

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

Cardholder's Name (as on card): _____

Billing address (if different from above): _____

Signature: _____

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

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Address _____

City _____

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Zip/Postal Code _____

Country _____

Payment and Contact Information

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

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

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

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

Name on card: _____ Signature: _____

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

Billing Address _____ City _____

State/Province _____ Zip/Postal Code _____ Country _____

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

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal code: _____ Country: _____

Phone: _____ Email: _____

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 \$ _____
Member Sponsorship Fund \$ _____
AAVSO General Fund \$ _____

TOTAL ENCLOSED \$ _____

SUPPORT THE AAVSO

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

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

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

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

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

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

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

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

Thank you for your support of the AAVSO!