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AAVSO Newsletter



Celebrating
100 years



1911–2011

FROM THE DIRECTOR'S DESK

ARNE A. HENDEN (HQA)

APASS-south just finished its 100th night of observing. The weather has been just short of astounding, as I think we have lost one night due to heavy clouds and a handful of nights with light cirrus over the entire four-month period that the system has been running. Far more nights were lost to operator error, hardware failures (including the CTIO internet), and engineering tests than to poor weather! I know that the streak will end one of these days soon, but I'm sure trying to make the best use of these great southern-hemisphere nights as possible.

APASS-north, on the other hand, is slow getting restarted. Tom Smith and I actually moved the original system from north to south, packing in early October and installing in early November. This meant that the original northern site was vacant. The replacement ASA astrographs were a bit late; we had some camera problems; the main computer was flakey and finally required replacement. Dirk Terrell has been great in supporting the computer systems for APASS, and the replacement units are pretty darn powerful. The real problem, however, has been the absolutely abysmal weather in New Mexico this winter. Blame el Niño or whatever, but there have been few photometric nights, and it is awfully hard just getting the engineering tests done, much less getting actual survey data taken. Hopefully that will end this spring, when the normal clear weather pattern will return!

In the meantime, Stephen Levine and I have been processing all of that great southern data.

It is fun to see the Magellanic Clouds and those constellation names like Norma that are never seen from Boston. We've made two data releases to date of the APASS data, including 10.9 million stars and many thousands of square degrees of northern and southern hemisphere sky. Matt continues to extend the MySQL database of this photometry, and we'll soon start improving the user interface. Progress!

So that project is what is keeping me off of the streets. While I knew it would be a lot of work, I always underestimate how much work is "a lot." Someday I'll learn! Luckily, I have a great staff and wonderful volunteers that take up the slack and make the organization run. While I'm scratching my head over the latest weird flat-field images, a half-dozen staff members are processing last night's AAVSONet images for our members and answering email from around the world. Sara wrote a neat tool for annotation of the AAVSONet images so the observers and site managers alike will know which images have defects. Aaron and Mike Simonsen are working on observer certification pilot projects. Aaron is also busy writing collaborative grants to bring funding into the AAVSO. Mike Simonsen, Matt, and Rebecca are making plans for the Spring and Annual meetings—this is our 100th year of existence, so we're going all-out to celebrate. Aaron and Mike Simonsen came up with some fun things to do along the way, such as the Trivia question contest

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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

JAIME R. GARCÍA (GAJ)

And so we are going to complete our first 100 years.... The time is coming.... The celebrations have started....

First of all, this year we will be meeting together with the American Astronomical Society in Boston, on May 21–26, in an impressive joint meeting: the AAVSO 100th Spring Meeting and the 218th Meeting of the AAS. As AAVSO members, we can enjoy all the AAS Meeting for a special lower rate. The program is really very attractive.

But this is by no means the only interesting thing for this Centennial celebration. We can find some others on our website: the Centennial Trivia Challenge and all the postings in staff members' blogs are fine examples. Our members and staff are doing an excellent job of spreading the word of our Centennial celebration at several meetings and star parties all around the world.

Nowadays, the AAVSO is achieving significant results, too. We reached the 20-million observation milestone in our AAVSO International Database

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FROM THE DIRECTOR'S DESK CONTINUED...

(with questions devised by Mike Saladyga) and the limited-edition T-shirts. You have bought your T-shirt, right? Not only are they keepsakes, but they also help to fund the various centennial celebration activities.

This winter has been a bear to handle in Cambridge. We've had over 80 inches of snow, and it is the heavy, slushy kind of snow that you have to deal with the day that it falls or you will be forever encased in ice. The snow has often picked morning rush hour commuting time to fall, so we've had to close the office on several occasions. Thank heavens for Internet—most people can work at home these days if the need arises! With our flat roofs, we were starting to get worried about the snow load; several hundred businesses in the Boston area lost their roofs this winter, and we didn't want to be one of them. Luckily, it stopped snowing about one snowstorm short

of when I would have gotten on the roof to start shoveling. Sidewalks are enough work, believe me!

I think Headquarters is coming out of hibernation. There are lots of projects underway, many of whom we haven't been able to report on because they just don't mean anything until you see them in action. We had work days to clean up some of the VSP weirdnesses; we installed the latest and greatest UCAC3 for VSP; we improved the look and feel of the home page. A lot of preparatory work in anticipation of the two main meetings has been done; we've made arrangements to be primary speakers at the major star parties; we're improving the infrastructure at HQ. Keep tuned over the next few months—I think you will all see something that interests you or helps you in your observing or research. The AAVSO is your organization—think about volunteering to make it better! Clear skies, everyone! ★

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PRESIDENT'S MESSAGE CONTINUED...

(AID). The AID is growing at an incredibly fast rate. Years ago, when I was a very young contributor to the AID, in the 1970s, the rate was almost 150,000 a year. But now, we are growing at a rate close or over a million observations per year. That is really fantastic because the AID is one of the most important contributions to science by the AAVSO.

Another outstanding result is the Citizen Sky project. After almost two years, the projects directly related to the star of the project, epsilon Aurigae, include: several groups working with projects that cover extensions of a list of variable stars to be monitored by new observers from the southern hemisphere; an extensive project for using DSLR cameras for making high quality photometry; the improvement of a complete software package (VStar) for analyzing light curves from different data sets; and many more. The success of the Citizen Sky project is significant, and it encourages us to support other ideas in the future.

Other important projects are also underway, like the archival data digitization. This is a special volunteer-driven project announced in September 2010. Now, we have almost 6,000 more data points in the AID that give old archived observations a new life in our database. This is the kind of thing you can do when you have cloudy nights. Feel free to volunteer for this kind of work!

The Centennial celebration will be in the top of its light curve October 5 through 8. This is the time for our Annual Meeting, our official 100th Anniversary Meeting. We are planning bus tours of previous AAVSO headquarters, a dedication of the Dorrit Hoffleit Conference Center (at Headquarters), a time capsule dedication, invited

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Ed. note: the Spanish language text of Jaime's message can be found on page 12.

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS

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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 mike@aaavso.org. Photos in this issue courtesy of Giancarlo Favero, Barbara Harris, and Chris Stephan.

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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A JOINT MEETING WITH THE AAS AND A MILESTONE ANNIVERSARY!

100th Spring Meeting of the AAVSO, May 21–26, 2011, Boston, Massachusetts

The AAVSO 100th Spring Meeting will be held as a joint meeting with the American Astronomical Society (AAS) at the Westin Copley Place, Boston, Mass. The AAS is a very large and highly respected professional astronomical society. (The AAS 2010 winter meeting was the world's largest astronomy meeting in history.) This joint meeting will start mid-day on Saturday, May 21, 2011. Saturday will include an afternoon membership meeting, an AAVSO Paper Session, and the AAVSO banquet with a variable star invited talk by AAS council member Dr. Nancy Morrison. Sunday will include a morning AAVSO Paper Session, an afternoon joint session with the AAS Historical Astronomy Division (HAD), and the AAS Welcome Reception. Monday will include two topical plenary talks on variable star science as well as two AAVSO-sponsored, variable star special sessions, "Astrophysics with small telescopes" and "Variable stars in the imaging era," and an evening open house at AAVSO HQ. AAS meeting events will continue through May 26, 2011, and each day will include dozens of talks covering a wide range of astronomical topics. Those who are not members of the AAS will be able to take advantage of special registration rates just for AAVSO Members. The AAVSO registration rate is good for the entire meeting, May 21 through 26. What a great opportunity to attend an AAS meeting at a dramatically reduced rate! Guest rooms are available at the Westin Copley Place (the meeting venue) and at an alternate hotel near Logan Airport. The AAS has a roommate search forum for those hoping to cut costs by sharing a room at the Westin.

AAVSO COUNCIL NOMINATIONS

From AAVSO President Jaime García comes the announcement that nominations are open for the AAVSO Council elections that will be held in October 2011. You are encouraged to submit the names of potential candidates for nomination! Council members must be members of the AAVSO, and may be amateur or professional astronomers.

The AAVSO Nominating Committee is responsible for drawing up the slate of candidates from which

For more information including registration links and hotel specifics please visit:

<http://www.aavso.org/100th-spring-meeting-aavso>

If you are unable to attend the Spring meeting be sure to mark your calendars for the very special 100th Annual Meeting of the AAVSO being held this fall! ★

100th Annual Meeting of the AAVSO, October 5–8, 2011, Cambridge/Woburn, Massachusetts

The AAVSO 100th Annual Meeting will be held at AAVSO HQ in Cambridge, MA, and the Hilton Hotel in Woburn, MA. This meeting will start on Wednesday, October 5th, with a Council Meeting and banquet for past and present Council members. On Thursday, we will hold the dedication ceremony for the Dorrit Hoffleit Headquarters renovation project and an AAVSO Birthday Party Welcome Reception and time capsule dedication. Friday and Saturday will include a book signing, invited speakers, paper sessions, poster sessions, and the AAVSO closing awards banquet. This is sure to be a once in a lifetime meeting with unprecedented attendance and a very special anniversary program. If you've been waiting to find just the right AAVSO meeting to attend, this is it!! Sleeping room rates will be \$99 per night at the main hotel with roommate matching assistance for those who would like to cut costs by sharing a room.

We hope to see you this year at an AAVSO meeting. Please consider joining us in 2011 to help celebrate this once in a life time event! ★

members elect Council members in October. The Chair of the Nominating Committee this year is Barry Beaman. If you know of someone who would make a good AAVSO Council member, please inform Barry via AAVSO Headquarters (aavso@aavso.org). Barry will make sure that the person is contacted by members of the committee. Thank you!

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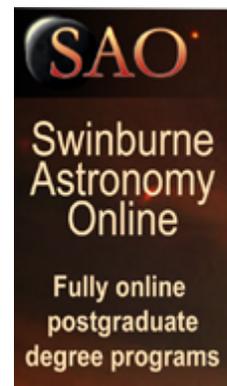
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TOUCHING HISTORY—THE AAVSO DIGITIZATION PROJECT

BOB STINE (SRB), NEWBURY PARK, CALIFORNIA

After some discussion with the AAVSO's Dr. Matt Templeton last summer, I volunteered to undertake a digitization project. The data I was to digitize was that of the eruption of Nova Persei No. 2 (1901)—also known as GK Persei, one of our favorite variable stars—as published in the *Annals of Harvard College Observatory* in 1903.

Thanks to the Internet and NASA's Astrophysics Data System, this article was readily available to me online. I discovered that a fairly large task lay ahead, as there were 3,346 observations to be converted from human-readable print to machine-readable format, which in the end turned out to involve about 50,000 keystrokes and mouse-clicks. Thankfully, Matt was patient and allowed me to proceed at my own pace. His philosophy, which comforted me, was that the data have waited 110 years; a few more months won't hurt.

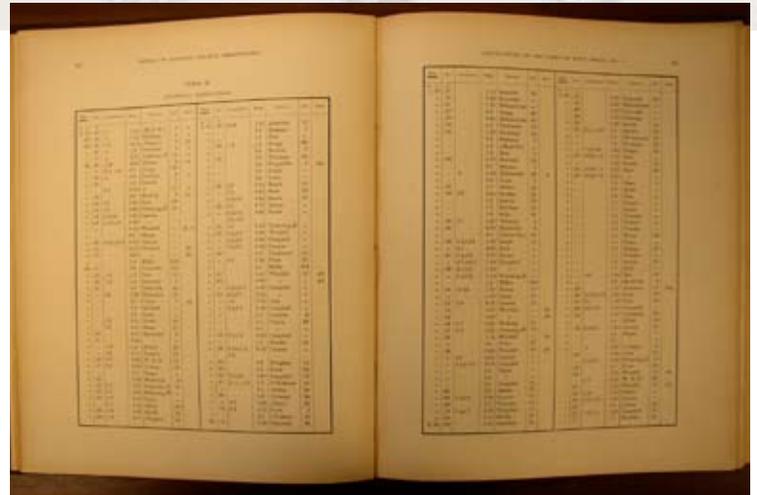
For the next nine months, I pecked away at the project, some days being highly productive followed by days or weeks of lassitude. However, I finally "got 'er done" in March 2011.

The digitization project was naturally a bit tedious. However, as I got into it, I found myself being pleasantly distracted by a few things. For example, I started an Excel chart of the light curve from my digitized data entries. This gave me a preview of what the data might look like when available and plotted from the AAVSO's International Database, which was the final goal of the project. It was fun to imagine that my efforts would reincarnate these 110-year-old data points into a digital world, and I was the first to see it!

I also found myself thinking not so much about stars and data, but rather the observers. There were famous names—at least famous in our world of astronomy—like Pickering, Barnard, and Antoniadi. My favorite was Annie Jump Cannon—I've always admired her work devising our system of stellar spectral classification and I love the way her name rolls off the tongue! Thinking about Annie also made me think of her overcoming disability and of the old days when they hired women as merely calculators, requiring them to have great patience to complete voluminous rote work. In a way, my digitization project challenged me with lots of rote work. Patience not being my strong suit, my appreciation for Annie and her colleagues soared.

And then there were people who might be famous to everyone but me, such as Balassny, who contributed many observations to the Nova Persei campaign. And there were others who contributed but a few observations. I wondered about their time zones, as indicated by the times of their observations in Julian Dates. It seems that observers were located from Russia to the west coast of the United States.

All observations were made visually, photographically, or using a photometer, and were limited to a precision of no greater than 0.01 magnitude. Some were only recorded to a precision of a Julian Day, others to 0.01 JD. Most observers provided but one observation per day. I wondered how might this be different today, using CCDs and the higher cadences of time-series photometry.



The first two of thirty-six pages of observations of Nova Per No. 2 (1901), published in *Harvard Annals*, Vol. 48, 1903.

I wondered why some observers were active for a while, and then disappeared. Some returned later in the campaign, some did not. I wondered why some days had very few observations and others many observations. Was it the Moon, or perhaps weather? If the latter, I wondered if archived astronomical observations could be used to reconstruct historical weather patterns.

Very importantly, this experience made me mindful of the blessing of the Internet, which allowed me to import directly to my desk, nearly instantaneously and for free, a paper published over 100 years ago. I am old enough to not take computers or the Internet for granted, so I can't help but imagine the time, travel to a major library, and money this project would have required were it undertaken in my youth. These are the good old days!

Consider volunteering for a digitization project. I am glad that I did. I think I'm going to rest a bit, and then volunteer for another. First, though, I have to get BSM-CA going. But that's another story. ★

THE AAVSO IN ITALY

This past winter, AAVSO Director Arne Henden traveled to Italy to attend the dedication of a 32-inch (80cm) telescope to the memory of Janet Mattei. Giancarlo Favero worked with the local government of Castello Tesino to fund the Celado Observatory; a very nice facility that will be used for public outreach.

It was during this trip that Arne gave a colloquium at Padova Observatory and met with Ulisse Munari. He also was invited to speak at a workshop for the Unione Astrofili Italiani (UAI) photometric observers later in the week. ★



The 32-inch telescope at Celado Observatory, and the plaque commemorating it to Janet Mattei

NEVER TOO WISE TO LEARN MORE

How does a “wise old owl” learn about astronomy and variable stars? Teacher Chris Stephan (SET), Sebring, Florida, sent us an email and photos about one of his evening students.

Chris writes: “This is Cee Cee, the wild Barred Owl that lives in the tops of the live oak trees at Riverwoods Field Lab. I was presenting a night sky program last night, Friday April 1, and the students let out a yell while my back was turned. I may have been showing them eps Aur with my green laser pointer when all this commotion happened. I turned and noticed the 12-inch reflecting telescope had something sitting on it.

“CeeCee wanted to join in the group. I was actually able to pet his back. CeeCee has a mate, but she wouldn’t join us.

“The students are from the Field Biology class at Palm Beach Atlantic College. The first photo shows Heather Dame next to CeeCee. The next shows Brandon Orr with CeeCee sitting on my truck. The last shows me with CeeCee sitting on the telescope [Chris says he’s the one with the glasses, not the feathers].



A different kind of star from the skies. So, Chris, where is the constellation Mus (the Mouse)?

“You never know what will show up in the dark. And, no, this was NOT an April fool’s joke. This was the real thing.” ★

SECOND THOUGHTS ABOUT A NEW AAVSO LOGO

MIKE SIMONSEN (SXN), AAVSO HEADQUARTERS

I had just made a quick pit stop along the New York State Thruway and was back on the road again heading east from Michigan towards Boston. The weather was pretty decent for March, and I had been consistently pushing or exceeding 80 mph most of the way through New York, taking advantage of the partly sunny, dry day.

Keenly aware that I was doing 15 mph over the speed limit most of the time, my eyes were peeled and on the lookout for state police hiding in the median or on the side of the highway far down the road ahead. I had dodged being detected a few times already by noticing “the boys” hiding in strategic positions, ready to pounce on the unsuspecting speeders who would be filling the coffers of the state with their traffic fines this day, and I’d felt pretty smug each time I saw the flashing lights in my rear view mirror as some driver lacking my keen instincts was pulled to the side of the road in highway humiliation.

I was making great time, and it looked like I would be pulling into the parking lot at AAVSO headquarters about an hour earlier than I expected. That’s when I saw him.

Apparently, I hadn’t noticed the traffic behind me parting like the Red Sea as “Smoky” raced to catch me from behind. He was now even with me in the left lane, looking right at me, or was it something else?

He seemed to be looking behind me, like I had a broken rear window or something. Then he looked right at me, then behind me. I was already decelerating, expecting the flashing lights to come on at any minute when the strangest thing happened. He tipped his hat and took off down the road at what seemed to be 100 mph.

It wasn’t until I stopped for gas a few hundred miles later, and looked in my window as I filled up, that it dawned on me what had happened. There in my rear driver’s side window was my AAVSO decal. I have one in the passenger side window too. I display them with pride. I have to admit, though, I have been a proponent of a new logo for many years. My main objection is that the current logo looks too stiff and old-fashioned, and too similar to the many sheriff’s department logos across this great country of ours. To me it doesn’t scream out “astronomy.” At first glance, it says “police.”

I think that AAVSO “police” decal in my window may have saved me a fine, points on my driving record, an increase in insurance premiums and a long string of disapproving “wife looks” for the next month or so. Maybe it’s old-fashioned, but I kind of like that sheriff’s star logo now. I have a lot of driving to do this year, NEAIC in New York, Boston a few more times, the Texas and Nebraska Star Parties. Yeah, those AAVSO decals are staying in my windows for the foreseeable future. Long live the AAVSO star! ★



MEET THE STAFF: LINDA HENDEN

GINNY RENEHAN (RVMA), AAVSO HEADQUARTERS

Linda Henden is our bookkeeper who quietly works behind the scenes. She pays the AAVSO bills and keeps folks in line when it comes to proper submission of receipts for purchases on our credit card (you guys know who you are!). Linda cheerfully picks up a paintbrush, scrubber, workgloves, yard clippers, bowl of potato salad, or tray of hamburger—whatever is needed—when there is a project (or a cookout) to be done at Headquarters. Oh yes, she also happens to be married to AAVSO Director Arne Henden!

Q: What is your current job at the AAVSO?

A: Accounting Clerk (and Director's personal assistant for special projects requiring Quickbooks data).

Q: What is the most enjoyable aspect of your job at HQ?

A: The opportunity to interact with staff.

Q: What is the least?

A: Calculating indirect/overhead costs for use in Federal grant applications.

Q: The AAVSO staff tends to be famous for the non-astronomical activities they do. (Sara sails, Matt runs marathons). Outside of your work at the AAVSO, what is your favorite non-work related activity?

A: Getting out of town; whether for a drive in the country, a walk in the park, a hike in the mountains, or a sailboat ride, I enjoy communing with nature.

Q: You have a background in landscape architecture. Can you share your ideas about how to improve/beautify the grounds at AAVSO Headquarters?

A: I actually drew up some landscape plans about two years ago, in which the parking area is reshaped to eliminate double-stacked parking and curbs are added so the snowplow guy doesn't tear up the turf every winter. A sidewalk separates the parking area from a planting bed near the building and extends to the front of the shed, there's a patio for the picnic table and grill, and the grassy area is flat and weed-free. Also, the entrance area is enhanced with new paving and a low wall (to prevent leaves and other debris from blowing into the building). The grounds around the residence are particularly exciting to me. I've been itching to plant some trees in front—a Japanese Cherry tree (or two) and a maple that will turn bright red in the fall. The deck in back is crying for some flowering vines to hang from the pergola-type shade structure that's over it, and a potted Japanese Red Maple. I have visions of some strategically-placed pathways, hardy groundcovers, a few rose bushes, and a new fence. These plans have been waiting for the exterior renovations to be completed.

Q: You have done extensive traveling around the globe. What's your favorite place and why?

A: My favorite place, without a doubt, is New Zealand. It offers such an outstanding assortment of natural beauty, it's sparsely populated, the people have a deep appreciation of nature, AND...they speak English!

Q: Are you an early bird or night owl?

A: That's an easy one—I'm definitely a night owl. It's now 1:00 a.m.

Q: What other professional affiliations are important to you?

A: The only organization I'm involved with, other than the AAVSO, is P.E.O. It's a women's group with chapters throughout the U.S. and Canada. It's been around since 1869—even longer than the AAVSO! We strive to help women further their education by raising money for grants, loans, and scholarships.



Linda Henden

We also locate women in need of these funds. And we own and operate Cottey College in Missouri. It's a two-year, highly regarded, school for women (of course). We're a social group, too, which is why I've been in P.E.O. for over 30 years.

Q: What's the last book you read and what made you pick that particular author or subject?

A: Eat, Pray, Love by Elizabeth Gilbert. After seeing the movie, a stranger in the audience asked me if I liked it, then said she had read the book and thought it was much better. So I immediately checked it out of the library. To me, the author's description of the sensation she experienced when in deep meditation was the most intriguing part of the book.

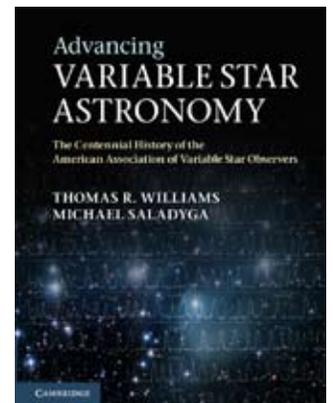
Q: Dog person or cat person—how come?

A: Definitely a cat person, which is a bit surprising, since I grew up around dogs. I think cats are cuter, softer, more cunning, and more entertaining than dogs. I especially like the fact that they don't bark. ★

AAVSO HISTORY NOW AVAILABLE!

Advancing Variable Star Astronomy: The Centennial History of The American Association of Variable Star Observers by Thomas R. Williams and Michael Saladyga is expected to be published by Cambridge University Press this May. Pre-publication orders are now being accepted.

When you order your copy don't forget to use the "Donate to the AAVSO via Amazon.com" link at the very bottom of the AAVSO webpage. The webpage link will take you to a page of books on variable star topics. Click on *Advancing Variable Star Astronomy* to read some great reviews by noted astronomers!



WHAT'S NEW WITH VSTAR?

SARA J. BECK (BSJ), AAVSO HEADQUARTERS

If you haven't tried using VStar yet, you are in for a treat! Whether you wish to use it as a tool for learning something about data analysis or you simply want to create beautiful and interesting light curves using AAVSO data (Figure 1), VStar has something for everyone.

To get started with VStar, it is recommended that you read the VStar overview page on the AAVSO website (<http://www.aavso.org/vstar-overview>). From that page, you can download the program, learn the basics of how it works, discover what sorts of things can be done with VStar, and find out where to go for more information.

One of the most exciting things about VStar is that its capabilities are constantly being expanded through the use of plug-ins. For instance, when Ken Mogul asked if VStar could plot his data in the format created by VPHOT (which is the same as the AAVSO Extended Format), Lead Developer David Benn worked with Ken to create a plug-in that will allow it to do so. Working with Doug Welch, David also created plug-ins which enable VStar to display data in the FITS format as produced by the Kepler and SuperWASP programs (Figure 2).

My own experience with VStar plug-ins was fun. I was working on a display for a star party in Ireland for which I wanted to create some light curves that highlighted the contributions of Irish observers. Using a sample plug-in created by David, I simply had to change a few lines of code to achieve my goal. Now when I plot my light curves, if I wish to highlight observations made by a group of people, all I need to do is enter their observer initials in the pop-up box provided, and presto—their data are displayed in a different color from the rest (Figure 3). I could see that this might be fun for others to use if they wish to see the observation contributions of members of their club or group, so I have made it public. To get this or the other plug-ins I mentioned above, please visit the VStar Plug-in Library, which can be found here: <http://www.aavso.org/vstar-plug-in-library>. The instructions for installing and using plug-ins can be found at the top of that page.

Initially, VStar was developed as part of the Citizen Sky project. In fact, further development continues on the VStar Team page of the Citizen Sky website: <http://www.citizensky.org/teams/vstar-software-development>. Some of the things we are currently working on include enhancing VStar's modeling capability and improving the language/locale specific labeling so that VStar will be easier for non-English speakers to use. If you are interested in getting involved in any aspect of VStar development, you are always welcome to join us, send in your comments, or help with testing. ★

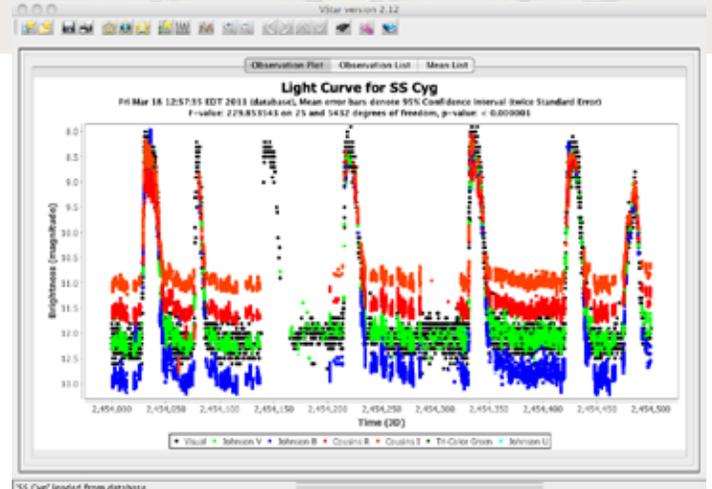


Figure 1. A VStar display of an SS Cygni light curve

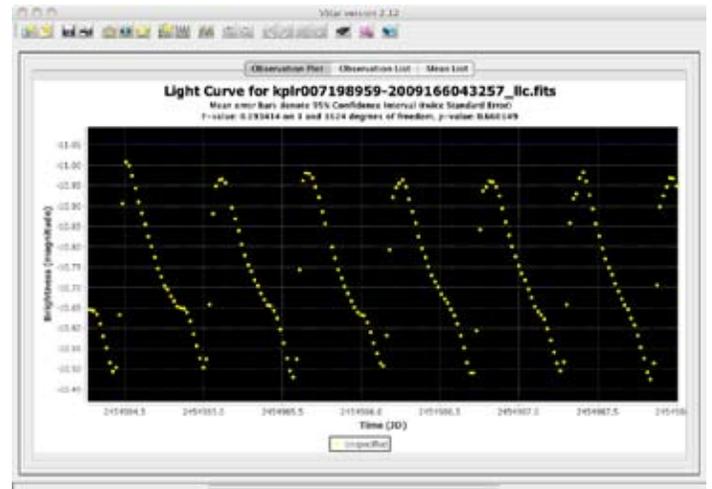


Figure 2. A VStar display of Kepler data from FITS formatted input

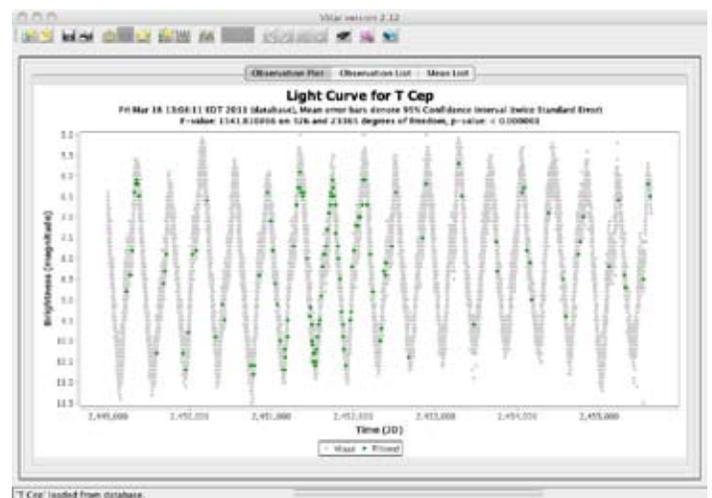


Figure 3. A VStar display of T Cep observations made by a specified group of observers

IN THE JOURNAL OF THE AAVSO

JOHN R. PERCY, JAAVSO EDITOR (john.percy@utoronto.ca)

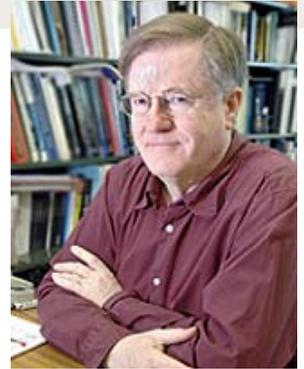
The Journal of the AAVSO (JAAVSO) was established in 1972 as (in the words of AAVSO Director Margaret Mayall): “a place where professional and non-professional astronomers can publish papers on research of interest to the observer.” But *JAAVSO* is not a dusty archive; it’s there for observers, members, and friends of the AAVSO to read! Find out how AAVSO observations are being used for research, and what new observations are needed. Keep up with both the basics and the frontiers of variable star research. See how other amateur (and professional) astronomers and students are analyzing variable star data, and get ideas on how you could contribute to analysis. Get feedback on your own observational programs. There are ten interesting papers on the *eJAAVSO* website (<http://www.aavso.org/ejaavso>) since the last *AAVSO Newsletter*, already refereed, but awaiting formal assignment to the next *JAAVSO* volume and number; here is why you should read them!

The variables discussed in these papers cover a wide range of types, from hot Be stars (paper ej133) to cool red giants (ej135), and from the faint white dwarfs in cataclysmic variables (ej132 and ej138) to supergiant stars (ej137). And you can always learn new things from *JAAVSO*; do you know what a “Wesenheit template” is (ej134)? These ten papers also illustrate a wide range of ways in which skilled amateur astronomers can contribute to research through the AAVSO. For instance, ej130 lists observations of times of minima of eclipsing binaries, and ej139 lists times of maxima of short-period variables such as RR Lyrae stars. And ej136 shows how the observations in ej130 can be used, to study systematic and random period changes, providing clues to what’s going on in these stars. Paper ej134 reminds us of

one of the most important uses of variable stars—determining distances in the universe. AAVSO observers can also make important contributions by monitoring large numbers of stars, and noting unusual or unique behavior: ej131 and ej132 are good examples.

Whereas ej130 and ej139 represent long-standing AAVSO observing programs, and ej135 reports on the scientific value of many decades of AAVSO visual observations of irregular pulsating red giants (and making recommendations about future observations), ej138 reports on early results of a new campaign—on Z Cam dwarf novae—and ej137 proposes a challenging but exciting new area of observation, namely supergiant fast X-ray transients. The authors range from students (ej135 and ej136), to professional astronomer and AAVSO council member Arlo Landolt (ej133), who has been observing variable stars for over half a century. We welcome other new *JAAVSO* authors such as Maurizio Falanga (ej137), and “old” ones such as me (ej136, ej137), Gerry Samolyk (ej130 and ej139), and Mike Simonsen (ej132 and ej138).

These papers are a win-win-win proposition: they contribute to scientific knowledge; they provide information and feedback to AAVSO observers and members; they showcase the contributions of the AAVSO to research and education. So read and enjoy! Comments about *JAAVSO* are always gratefully received. ★



Dr. John R. Percy,
JAAVSO Editor

Management of The Journal of the AAVSO

Have you wondered who is responsible for The Journal of the AAVSO? Who causes the articles to appear in eJAAVSO and then in the print version?

AAVSO staff members carry out the day-to-day administrative operation of JAAVSO, including communicating with the Editor and with referees, and preparing final versions of papers for on-line and on-demand paper publication. The Editor is responsible for the scientific administration of the Journal, including deciding whether submitted manuscripts are suitable for refereeing, assisting in recommending referees for each paper, and assessing whether the final versions of the manuscripts meet any concerns of the referees. The Editor and AAVSO staff members may also review the final versions of the manuscripts.

The JAAVSO Editor is assisted by an Editorial Committee, one of whose duties could be to monitor and assess the impact and all-round effectiveness of JAAVSO. The Editorial Committee can serve as a “steering committee” for the Journal, providing ongoing advice, assessment, and support.

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THEN AND NOW, A STORY OF PROGRESS

MIKE SIMONSEN (SXN), AAVSO HEADQUARTERS

This centennial year has caused me to look long and hard at where the AAVSO has come from, what it's been through, where we are now, and where we seem to be headed into the future. The more pieces of the puzzle fill in, the more remarkable is the story that unfolds.

Look where we started. The AAVSO didn't even have a name. We were just a small band of dedicated observers working to support the research being conducted at Harvard College Observatory in the early 1900s. William Tyler Olcott and a handful of other observers submitted data on a short list of stars for which there were charts and sequences.

Most observers had refractors with 2- to 4-inch objectives. Everyone was a visual observer. Judging from the pictures, they all wore three piece suits and evening gowns when observing, even in winter! I can't even imagine trying to find my first variable star without a decent star atlas and a red flashlight. They didn't have any of that. They stood outside in the dark and cold in their Sunday best straining at the eyepiece of their little telescopes to help the advancement of science. These people were well dressed and tough.

Observers wrote down their observations and sent them to Olcott by mail. The first year, 1911, that cadre of observers published over 6,000 observations in the volumes of *Popular Astronomy*. Every one of them hand written, hand copied, and typeset using the technology of the day. These were just tables of data. There weren't enough observations yet to make a light curve.

There were no officers, council, staff, or headquarters. Olcott ran everything from his house. He wrote to the observers, copied the charts, collected the data, mentored new observers, lit your cigar, and put the babies to bed. He was the Director, Recorder, Secretary, council, and staff.

Eleven people met for the AAVSO's first tour of the Harvard Observatory, on the invitation of HCO Director Edward C. Pickering, in November of 1915: Allan B. Burbeck, David B. Pickering, Solon I. Bailey, Forest H. Spinney, Charles Y. McAteer, George F. Nolty, Rev. Tilton C. H. Bouton, James L. Stewart, Leon Campbell, William Tyler Olcott, and Edward C. Pickering. Pickering, Olcott, and Campbell went on to become legendary leaders of the AAVSO. Charles "Mac" McAteer was one of the most well-liked and respected members of the "Old Guard" and became the AAVSO's first librarian. Our library was named in his honor in 1924, the year he died.

The variable star zoo known to our founding members was a short tour through the Mira and Cepheid cages, the eclipsing binary house and the nova petting zoo. That was it. No cataclysmic variables, superhumps, RR Lyrae, T Tauri, or FU Orionis stars. Many of the prototype stars we call these subtypes by weren't even discovered yet.

Astrophysics was still in its infancy. We were just beginning to assemble the stellar spectra of stars and ascertain the distances to a few. Knowing how stars shine and what they are made of was still a decade or two away and we had no verifiable sense of the scale of the cosmos. The universe of our counterparts in 1911 was much smaller than the one we live in now. There was no theory of relativity or dark energy.

Today the AAVSO has 1,000 members in countries around the world. We have twice as many observers submitting data annually and even have close to 3,000 friends on Facebook. Researchers, educators, and amateurs across the globe use our data to help explain the secret lives of stars.

You can plot charts for thousands of stars and take them out to your telescope or observatory within minutes. Our observers use everything from



THEN—AAVSO Charter Member M. Alberta Hawes, about 1918



NOW—AAVSO member Barbara Harris who, with AAVSOer Shawn Dvorak detected a rare outburst of the recurrent nova U Scorpii

binoculars to 1-meter telescopes at remote sites. We have visual observers, PEP observers, CCD observers, and observers who mine existing databases for discoveries. You don't even have to get dressed to go outside to observe anymore. You can process data and submit observations from your AAVSONet telescope without getting cold or wet or losing sleep.

We may not be as well dressed, but we submit over a million observations a year now, and our database numbers over 20 million observations. You can access all those data, plot light curves, or see how your recent observations fit into the light curve of your favorite variable star in seconds. Take that, 1911!

It would be impossible for one person to run today's AAVSO. It takes a team of dedicated staff, a dozen councilors, and a full time Director working as hard as they can to keep the ship off the rocks and headed in the right direction.

We expect attendance at our next annual meeting to be in the hundreds. If you come to help us celebrate the progress of one hundred years you will get a chance to meet some of the future legends of the AAVSO, with names like Bortle, Dillon, Henden, Huziak, Samolyk, Scovil, Walker, and Williams.

There will be papers on more types of stars than our predecessors even knew about, studied in multiple bandwidths by an assortment of instruments, all by amateur astronomers with the same desire to contribute to science in some meaningful and fulfilling way.

Now we know what stars are made of in galaxies far away. We know how they are born, live, and die, and what makes them shine across the cosmos. We know how old the universe is and can peer almost all the way back to the beginning of time itself. We are probably months or years away from discovering planets like Earth in orbit around Sun-like stars and may know that we are not alone in the universe in my lifetime.

And this story isn't over now that we've reached this centennial milestone. Things change so fast nowadays it's almost impossible to predict where we will be ten years from now, not to mention in 2111. Our equipment will get better, our database will become ever larger and more inclusive, both as a historical database and as a living one up to the latest Virtual Observatory Event or transient alert. We may even have amateur telescopes in space, the ultimate remote site! Processors will get so fast computers will type out your thoughts before you are done thinking them. We'll probably be hard-wired right to the Internet or whatever they call it in ten years. You'll be logged into the universe 24/7. All our meetings will take place on the cloud (server) and we will be sending long distance messages to our friends on other planets.

Some things will stay the same: four people will still submit their observations on paper, someone will still complain whenever there is a change to the website, council will still only meet twice a year, there will never be enough money, staff, or time, but the people in the AAVSO will be the best thing about the AAVSO always, forever. ★

T-SHIRT AND AMAZON SALES BENEFIT THE AAVSO

MIKE SIMONSEN (SXXN), AAVSO HEADQUARTERS

After our original announcement regarding the centennial t-shirt sale, t-shirt orders peaked and Arne was busy autographing T-shirts about as fast as Ginny could get them in the mail. As the first quarter of our centennial year draws near we have received donations for about a quarter of our inventory.

I think we were expecting to have about half the T-shirts gone by now, so obviously we have to do a better job of marketing these special, one of a kind, limited edition, never to be produced again, comfortable, indestructible, collector's items with the awesome artwork.

You need to order yours right now, today, to guarantee you can still get them in your size before they are all gone. There are only 200 of these shirts available. Your \$50 donation not only lands you one of the hottest new clothes items for spring, but will also help defray the costs associated with our centennial celebration this year.

These excellent quality T-shirts are royal blue and have the AAVSO logo above the front left breast in yellow, and artwork with the slogan '100 Years of Variable Star Astronomy' in yellow on the back. They are made of 100% cotton and produced by American Apparel, meaning they are made in the United States. AAVSO Director Arne Henden will autograph each T-shirt in permanent ink anywhere on the shirt you request with the message of your choice.

The goal is to raise \$10,000.00 to help pay for the meetings, banquets, banners, plaques, and other expenses associated with our 2011 Centennial Celebration. You may purchase as many T-shirts as you wish. Once we have sold 200 we will have reached our goal of \$10,000.00 and will stop selling them.

You can order these collector edition T-shirts from our online store. You can also simply make a donation to the centennial fundraiser online at <http://www.aavso.org/make-gift>, by designating your donation to the Centennial Celebration Fund.

Another way you can support the AAVSO this year, and every year, is to remember to do your online shopping at Amazon dot com through the AAVSO website connection. When you enter the Amazon store through the AAVSO website, at least 5% of your purchase price is donated directly to the AAVSO. The more you spend through Amazon, the larger our percentage of the take! It doesn't cost you a penny, but those 5% here and 6% there really add up each year as contributions to the AAVSO.

We've even made it easier and more convenient than ever for you to do. We have added a button in the bar just below the title banner on every page of the website. So if you get a sudden urge to buy new fuzzy dice air fresheners for your car while submitting your observations to WebObs you can go straight to Amazon to put in your order. Not only your passengers, but also the AAVSO will benefit from your decision to buy them through the AAVSO Amazon connection. ★

PRESIDENT'S MESSAGE CONTINUED...

speakers, and much more. If you have never been to an AAVSO meeting or have not attended one in a while, this is the one not to miss!

We are preparing our headquarters building for our Centennial celebration, with several improvements to the interior, painting of the exterior, and landscaping.

One of the things that I was very interested in when I became President of the AAVSO was to listen to our members in order to improve our work. We now have a way for sharing comments and suggestions with your President, and this is the special President's forum available through our website <http://www.aavso.org/forums/presidents-forum>. I encourage all of you to use this space for making suggestions and comments that I will share with my colleagues in Council.

As you probably know, AAVSO membership has lot of benefits. You can access and analyze data

using exclusive tools. You can observe variable stars without having a telescope or even if you do not have favorable weather conditions through our AAVSONet telescope network. You can enjoy impressive meetings at lower rates, and much more.

This is all because our AAVSO is healthy and growing. And this is essentially due to the support of our members and observers. If you are a non-member observer I would like to ask you to consider joining the AAVSO, and if you are already a member I would like to ask you to consider adding an additional contribution to your dues each year. I would also like to ask you to consider remembering the AAVSO in your will—this is a way to leave a legacy of one's love for variable star astronomy.

I am looking forward to see all of you in the Boston area during May and also in October! ★

IN MEMORIAM

MEMBERS, OBSERVERS, COLLEAGUES,
AND FRIENDS OF THE AAVSO

EDWARD A. HALBACH (HK), AAVSO member and observer since 1934, died March 20, 2011, at the venerable age of 101 (just shy of his 102nd birthday; he was born 5 April 1909). As Ed's son-in-law, Michael Moore, reported to Gerry Samolyk, Ed's death occurred at 7:21 pm EDT (2011 March 20, 23:21 UT), within minutes of the Vernal Equinox. During his 76 years of AAVSO membership, Ed contributed 100,715 visual observations to the AAVSO International Database. Ed and his lovely (and patient) wife, Jane, were frequent attendees at AAVSO meetings, and Ed's stories were always great fun to listen to. In the 1940s he served on the AAVSO Council and as AAVSO 2nd Vice President. Ed was the recipient of the AAVSO Merit Award in 1988, the AAVSO William Tyler Olcott Distinguished Service Award in 2003, and AAVSO Observer Awards for visual observations through the 100,000 level. Ed mentored hundreds of observers over the decades, and was also a founder and central figure of the Milwaukee



Ed Halbach (right) with fellow AAVSO members Eugene Jones (left) and Charles Elmer, at the AAVSO's Annual Meeting at Harvard College Observatory in 1938.

Astronomical Society for many years. As an engineer, he was innovative and constantly thinking of ways to make observing and observing resources more efficient, from suggesting and making modifications to charts, to inventing a gravity-activated red observing flashlight to wear around the neck, to designing a portable observing/recording cart he used in later years, and many others.

In addition to variable stars, he was involved in many other areas of astronomy, and in the 1940s and 1950s he led several solar eclipse expeditions for the National Geographic Society. Outside



Ed Halbach in the mid-1990s showing the observing station and equipment he designed.

of astronomy, he and Jane, active in Habitat for Humanity, were honored for their work when Estes Park, CO (where they lived for many years), named Halbach Lane after them. Ed is survived by his six children and their children and grandchildren.

Ed was an example of the classic AAVSO member/observer: dedicated, enthusiastic, persistent, meticulous, generous and kind, and very independent. We are grateful for his love of variable stars, his valuable contributions to variable star astronomy, and his long association with the AAVSO.

LEIF J. ROBINSON, friend of the AAVSO and amateur astronomers everywhere, died February 27, 2011, from cancer at the age of 71, in Costa Rica, where he had lived with his wife Ollie for several years. Leif was known to amateur astronomers worldwide as an editor, and then the Editor in chief, of *Sky & Telescope* magazine. Interested in astronomy since the age of 15, he served as writer and editor on the staff of *S&T* for 38 years, 20 of them as Editor in chief. After his retirement in 2000, Leif continued to write the "50 & 25 Years Ago" column and give astronomy-related talks to the amateur community and the general public. Leif served on the Board of Directors



Leif Robinson

of the Astronomical Society of the Pacific, and was a champion of amateur-professional collaboration in astronomical research. In 2001, he was the recipient of the second AAVSO William Tyler Olcott Distinguished Service Award. Minor planet (3819) Robinson was named for Leif by Brian Skiff. Outside of astronomy, Leif was an expert and dedicated

birdwatcher (we often saw him outside having a cigarette and watching the hawks sitting on the radio tower next to 25 Birch Street) who regularly traveled to observe and study bird migrations. Leif is survived by his wife and by his son and daughter from his first marriage (to Carolyn Nason, also of the *Sky & Telescope* staff) and their families.

JAMES L. ELLIOT, observational planetary astronomer and friend and colleague of the AAVSO, died March 3, 2011, from cancer at the age of 67. He was a professor of planetary astronomy and physics at MIT and was the director of MIT's Wallace Astrophysical Observatory. In 1978, alongside Edward Dunham and Douglas Mink, Jim discovered the rings of Uranus (and received a NASA Medal for Exceptional Scientific Achievement for this discovery); he was also head of the team that discovered the atmosphere of Pluto. He was also a pioneer of stellar occultation. Minor planet (3193) Elliot was named in Jim's honor. Jim was especially supportive of women in astronomy—astronomers Karen Meech and Shelly Pope are among his female students who have gone on to professional careers. Jim is survived by his wife, Elaine, his two daughters, and their families.



James Elliot

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

MENSAJE DEL PRESIDENTE JAIME R. GARCIA (GAJ)

Y estamos completando nuestros primeros 100 años... Ya lleg el momento... Los festejos ya comenzaron...

En primer lugar, este año nos reuniremos junto con la Sociedad Astronómica Americana (AAS) en Boston, en mayo 21 al 26. Vamos a participar de una impresionante reunión conjunta: la 100a Reunión de Primavera de AAVSO y la 218a Reunión de la AAS. Como miembros de AAVSO, podemos disfrutar de todos los eventos de la Reunión de la AAS de una tarifa inferior especial. El programa es realmente muy atractivo.

Pero esto no es lo único absolutamente interesante en cuanto a la celebración del Centenario. Podemos encontrar algunas otras cosas en nuestra página web: la Trivia del Centenario y todas las cosas que son capaces de escribir en sus blogs los miembros del personal de AAVSO, resultan ser buenos ejemplos. Además, nuestros miembros y el personal están haciendo un excelente trabajo difundiendo la celebración del Centenario en varias reuniones y fiestas de estrellas en todo el mundo.

También por estos días, la AAVSO está logrando resultados importantes. Llegamos a los 20 millones de registros en nuestra base de datos internacional (AID). La AID está creciendo a un ritmo increíblemente rápido. Hace varios años, cuando yo era un colaborador muy joven de la AID, en los años 70, la tasa era de casi 150 mil al año. Pero ahora, estamos creciendo a una tasa cercana o superior a un millón de observaciones por año. Eso es realmente excepcional ya que la AID es una de las más importantes contribuciones de AAVSO a la ciencia.

Otro resultado notable es el proyecto de ciencia ciudadana Citizen Sky. Después de casi dos años, además de las cosas directamente relacionadas con la estrella del proyecto Epsilon Aurigae, tenemos varios grupos de trabajo con proyectos que cubren extensiones de una lista de estrellas variables para que puedan monitorear nuevos observadores del hemisferio sur, un amplio proyecto del uso de cámaras réflex digitales para hacer fotometría de

alta calidad, la mejora de un paquete completo de software (VStar) para el análisis de curvas de luz de diferentes conjuntos de datos y muchos más. El éxito del proyecto Citizen Sky es significativo, y da impulso al apoyo de otras ideas en el futuro.

También se están realizando otros proyectos importantes, como la digitalización de datos de archivo. Este es un proyecto especial dirigida por voluntarios anunciado en septiembre de 2010. Ahora, tenemos casi 6000 nuevos puntos-dato en la AID que hacen que viejas observaciones archivadas tengan nueva vida en nuestra base de datos. Se trata de un tipo de cosas que tu puedes hacer cuando tienes noches nubladas. Siéntanse libres de voluntariarse para este tipo de trabajo.

La celebración pasará por la parte superior de su curva de luz entre el 5 y el 8 de octubre. Este es el momento de nuestra Reunión Anual, nuestra reunión oficial del 100 ° aniversario. Estamos planeando excursiones en autobús a las sedes anteriores de AAVSO, la inauguración del Centro de conferencias de Dorrit Hoffleit, la inauguración de una cápsula del tiempo, oradores invitados, y mucho más. Si usted nunca ha estado en una reunión de AAVSO o no han asistido a una hace tiempo, ¡ésta es una que no puede perderse!

Estamos preparando nuestras jefaturas que construyen para la celebración del Centenario, con varias mejoras al interior, pintura del exterior, y ajardinar.

Una de las cosas en que estaba muy interesado, cuando me convertí en Presidente de la AAVSO era escuchar a nuestros miembros con el fin de mejorar nuestro trabajo. Ahora tenemos una manera de compartir comentarios y sugerencias, y este es el foro del Presidente, que se encuentra ahora a disposición a través de nuestra página web <http://www.aavso.org/forums/presidents-forum>. Animo a todos ustedes a utilizar este espacio para hacer sugerencias y comentarios que voy a compartir con mis colegas en el Consejo.

Como usted probablemente sabe, la pertenencia a AAVSO tiene muchos beneficios. Usted puede acceder y analizar datos con herramientas exclusivas. Usted puede observar estrellas variables sin tener un telescopio o incluso si no tiene las condiciones climáticas favorables a través de nuestra red de telescopios AAVSONet.

Usted puede disfrutar de reuniones impresionantes a precios más bajos, y mucho más.

Esto se debe a que nuestra AAVSO goza de buena salud y está en pleno crecimiento. Y esto se debe fundamentalmente al apoyo de nuestros miembros y observadores. Si usted es un observador que no es miembro me gustaría pedirle que considere unirse a la AAVSO, y si ya es miembro, me gustaría pedirle que considere agregar una contribución adicional a su cuota de cada año. También me gustaría pedirle que considere recordar a AAVSO en su testamento - esto es una manera de dejar una herencia del amor para la astronomía de estrellas variables

¡Los espero a todos en el área de Boston en mayo y octubre! ★

AAVSO OBSERVING CAMPAIGNS UPDATE

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

Observations of T Pyx requested throughout its outburst

Dr. Bradley Schaefer (Louisiana State University) has requested intensive coverage of the recurrent nova T Pyxidis (see AAVSO Alert Notice 437 for outburst and campaign details). T Pyx went into outburst April 14 after 45 years of quiescence, more than twice the interval between the preceding two outbursts (see AAVSO Alert Notice 436). The outburst is expected to last for approximately nine months, but the star will become unobservable in August. Please observe T Pyx as you are able until the star is lost in the sun, and try to pick it up again when it re-emerges in November-December. It is already 8th magnitude and still brightening, so there will be plenty of work for all observers—binocular, PEP, telescopic visual, and CCD—to do!

Two Campaigns in support of HST observations: SDSS074545 and GW Lib

This spring, Dr. Paula Szkody (University of Washington) carried out two campaigns in which AAVSO observers played a crucial role: HST observations of SDSS074545 and of GW Lib.

In February, Dr. Szkody requested our assistance in monitoring the cataclysmic variable SDSS074545 for Hubble Space Telescope observations scheduled to be made during mid-March (see AAVSO Alert Notice 431). We asked for nightly monitoring, and then more intensive monitoring around the actual date of the observations (see AAVSO Special Notice #236), so that the satellite team could determine if SDSS074545 was too bright for the satellite instrumentation. You responded with excellent coverage. Thanks to your observations, the satellite team was able to determine that it was safe for HST to observe SDSS074545, and the observations were carried out on March 12/13, according to Dr. Szkody. The data yielded very exciting results, which she and her colleagues will be publishing (and which we will report).

In March, Dr. Szkody requested our assistance for a similar campaign being carried out on the cataclysmic variable GW Lib for HST observations scheduled for mid-April (see AAVSO Alert Notice 433). (Dr. Szkody had also observed this object with HST in March 2010; see AAVSO Alert Notice 417.) We again asked for nightly monitoring, and then more intensive monitoring (see AAVSO Special Notice #238), so that the satellite team could determine if HST observations could proceed. Again, you responded with excellent coverage, despite the difficult location of GW Lib in the morning sky. Thanks to your observations, the satellite team was able to determine that it was safe for HST to observe GW Lib, and the observations were carried out on April 8/9, according to Dr. Szkody. She has not yet seen the data but anticipates good results. Please continue to monitor GW Lib nightly until the end of April.

Dr. Szkody and her colleagues are most appreciative of your observing efforts and thorough coverage—without you the campaigns could not have gone forward safely. Thank you very much!

Observing Campaign on BM Ori and the Trapezium region

This campaign continues, begun in November 2010 at the request of AAVSO's own Dr. Matthew Templeton with the goal of searching for low-amplitude variability in the bright, young stars of the Trapezium region of the Orion Nebula (M42) and surrounding constellations, in conjunction with upcoming observations with the MOST satellite (see AAVSO Alert Notice 427 for more details, observing instructions, and the list of target stars). There is a wide range of target stars, ranging in brightness from 6th magnitude to 12–13 and fainter. There are very specific observational guidelines for these targets to maximize the scientific value of the observations, so please be sure to read the Alert Notice.

Eclipse of epsilon Aurigae

The eclipse of epsilon Aurigae has begun the egress phase; the star is brightening from the minimum brightness where it has been for these past months. It is very important to obtain a good light curve of the egress and after eps Aur returns to maximum for analysis. The Citizen Sky campaign to observe eps Aur (please visit www.citizensky.org for details) is continuing. Thank you for all your wonderful observations! Please keep up your excellent work at least until eps Aur enters conjunction.

Photometry of Edwin Hubble's first Cepheid in M31, M31_V1

As mentioned in the last newsletter, Dr. Keith Noll and members of the Hubble Heritage Team who are studying Hubble's Variable (see AAVSO Alert Notice 422) that you have been monitoring since July contacted us with good news about the campaign and said it is continuing to move forward. At 00:41:27.30 +41:10:10.4 (J2000.0) and at 19th magnitude, M31_V1 is difficult to observe, but please try to keep up your coverage of Hubble's Variable at least through the end of January so the astronomers will have a good ground-based light curve for correlation with their HST observations.

FS Aurigae

Four days after the monitoring campaign on the peculiar cataclysmic variable FS Aurigae was announced by Dr. Matthew Templeton on November 30, 2010 (AAVSO Alert Notice 428), the star went into outburst, activity caught and reported immediately by AAVSO observers. Since that first outburst of the campaign, another seven outbursts have been reported, for a total of eight, and superb coverage is continuing - in fact, the coverage has been essentially nightly, with many nights having four-color photometry! This campaign relies on AAVSO observers' detection, quick reporting, and coverage of outbursts and intervening quiescences to enable the astronomers to study the extremely unusual brightness and radial velocity behaviors of FS Aur.

Photometry of HMXBs

Observers contributed very well to the stars in the latest stage of this ongoing, open-ended campaign of Dr. Gordon Sarty's to study High-Mass X-ray Binaries (HMXBs). Since this campaign began (AAVSO Special Notice #220), as of early April 2011 eleven observers had contributed 186,916 multiband observations of five of the nine stars in this target set. Thank you! Although this phase of the campaign may have officially ended, all observations of the HMXBs at any time are valuable.

CONTINUED ON NEXT PAGE

OBSERVING CAMPAIGNS UPDATE CONTINUED...

Long-term monitoring of the Young Stellar Objects HBC 722 and VSX J205126.1+440523

Since the request by Dr. Colin Aspin for the monitoring of these two objects (to continue through late 2011) was issued October 1, 2010 (AAVSO Alert Notice 425), observers have contributed 2,798 visual and multipassband observations. We join Dr. Aspin in saying thank you very much and ask you to keep up the good work so that the optical and infrared spectroscopy planned for 2011 can be carried out.

As Dr. Matthew Templeton has said, the AAVSO Observing Campaigns Program exists to serve both the researcher and the observer. If you are a researcher (amateur or professional) with a well-defined and well-justified science plan that would benefit from the observations of the amateur community, please let us know! And if you are an observer looking for new and challenging things to try, please look over our campaigns page to see what interesting new science you can contribute to!

Learn more about AAVSO Observing Campaigns on our website:

<http://www.aavso.org/observing-campaigns>

Many thanks for your observing efforts and valuable contributions! Clear skies, and good observing. ★

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



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

Things are starting to pick up again with PEP observers, and with the AAVSO PEP Program itself. The most important news is that PEPObs is now in the development queue for the AAVSO website! PEPObs enabled observers in the AAVSO PEP-V Program to submit their raw data or preformatted PEP reports for processing on the website and insertion into the AID. While the photometric reduction package never changed, the migration to the new website necessitated a reprogramming of the interface. This work is now in the pipeline of our Web Developer Will McMain, and we hope to relaunch PEPObs during the late Spring or Summer! We hope that PEP observers will again take full advantage of this utility.

We note that the AAVSO still has one SSP-3 unit available for loan to members in good standing willing to commit to using them on a regular basis and submitting the data to the AAVSO. If you are interested in borrowing a photometer, please contact Matthew Templeton (matthewt@aavso.org).

Despite not having PEPObs available on the website, several observers have been making observations and either doing their own reductions or sending their reports to AAVSO headquarters for processing. There were 79 PEP observations made during the period of December 1, 2010 to March 1, 2011: J. Fox, 24; T. Rutherford, 20; A. Ormsby, 15; B. McCandless, 10; J. Martin, 7; and C. Calia, 3 [totals do not include all submitted reports]. Epsilon Aurigae is far and away the winner in terms of data submitted with 44 PEP observations (13 V, 9 J & H, 7 B, and single observations in R,I, and the Wing set). There were between one and four observations in each of 21 other stars. Alpha Ori (Betelgeuse) wasn't observed during that time frame, and I encourage the PEP community to add this challenging star back into their program when it returns to a more favorable observing position later in 2011.

Thanks to everyone who continued making PEP observations in 2010, and we look forward to seeing more data soon!

Clear skies! ★

JULIAN DATE / MOON PHASE CALENDARS

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

MARCH 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 	2 	3 	4 	5 
6 	7 	8 	9 	10 	11 	12 
13 	14 	15 	16 	17 	18 	19 
20 	21 	22 	23 	24 	25 	26 
27 	28 	29 	30 	31 		

APRIL 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 	2 
3 	4 	5 	6 	7 	8 	9 
10 	11 	12 	13 	14 	15 	16 
17 	18 	19 	20 	21 	22 	23 
24 	25 	26 	27 	28 	29 	30 

MAY 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 	2 	3 	4 	5 	6 	7 
8 	9 	10 	11 	12 	13 	14 
15 	16 	17 	18 	19 	20 	21 
22 	23 	24 	25 	26 	27 	28 
29 	30 	31 				

Moon calendars courtesy StarDate online
<http://stardate.org/nightssky/moon/>

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