



# News from The Society- for Astronomical Sciences

Vol. 3, Number 1

## Arne Henden named Director of AAVSO

We offer our congratulations to Arne Henden on his appointment as new Director of the AAVSO effective March 1, 2005. As a fellow Indiana University Alumni, this appointment couldn't have happened to a better qualified person. Arne is a Senior Research Scientist for the Universities Space Research Association at the U.S. Naval Observatory in Flagstaff, Arizona. His primary research interests are in optical and near infrared imaging, vari-



able stars, gamma ray burst afterglows and professional-amateur collaboration. He was also a regular contributor to the AAVSO database with his own observations and served the AAVSO in various capacities even before his appointment.

Arne as you all know, has been a long time participant in the our yearly Symposium and serves as

advisor for the SAS. It is anticipated that he will continue in this capacity. This appointment with the AAVSO along with his involvement with the SAS may signal a new collaborative effort between the AAVSO and SAS. Indeed, you will notice that Arne is our Keynote after dinner speaker. The title of his talk is "AAVSO and SAS: A Marriage Made in the Heavens".

The SAS committee is already beginning to think in terms of the potential for the two groups to interact, while at the same time retaining their identity. As always we welcome thoughts from members along these lines. In addition to the Keynote talk, Arne is also involved in a pre-SAS workshop with Brian Warner on Photometry. This event was described in the last Newsletter. There remain openings for the Tuesday event. For more information go to the "Other Events menu at the SAS web site: <http://socastrosci.org/Default.htm>

## 2005 Symposium Rapidly Approaching + Workshop

The organization and schedule of this years Symposium is well along. The schedule of speakers is shown on pages 2 and 3. This is of course always subject to last minute changes. Currently there are 35 Registrants, a large increase over the 15 we had at the same time last year. Perhaps we will break 100 registered attendees this year. Last year we had 93. We are delighted to have some presenters coming all the way from France, Valerie Desnoux and Christian Buil. Valerie is the author of the outstanding spectroscopy software package Vspec (freely available) which essentially all amateurs involved in spectroscopy use. She will describe the use of this software in part during her presenta-

tion on Be stars which she and Christian work on together. Because of their busy travel schedule, they will be arriving later on Wednesday and spend Thursday with us. It appears at this time there will up to 4 people attending from France. Lets make them feel welcome.

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### Committee:

- Lee Snyder – Co-Chairman
- Robert Stephens – Co-Chairman
- Robert Gill – Audio Visual Webmaster
- Dave Kenyon – Program Co-Chairman
- Dale Mais – Program Co-Chairman, Newsletter editor
- Brian Warner – Program Co-Chairman
- Jerry Foote – Program Co-Chairman

### Advisors:

- Arne Henden
- Dirk Terrell
- Alan Harris

*We thank our 2005 Sponsors whose support makes our meeting possible:*

- APOGEE INSTRUMENTS, INC
- SANTA BARBARA INSTRUMENT GROUP
- SKY & TELESCOPE
- SOFTWARE BISQUE



## Tentative Speakers for the 2005 Symposium on Telescope Science

### Wednesday 5/25

Coffee/Registration	08:00	08:45	
Welcome	08:45	09:00	
Dave Kenyon	09:00	09:30	The Fireball Network
Bob Koff	09:30	10:00	DK CVn: A Dynamic Eclipsing Binary System
Dirk Terrell	10:00	10:30	HD 23642 and the Distance to the Pleiades
Coffee Break	10:30	10:45	NOTE: Only 15 Minutes
David Bradstreet	10:45	12:00	Binary Star Modeling using Binary Maker 3
Lunch	12:00	13:30	
Dale Mais	13:30	13:45	Update on the AAS Working Group for Professional-Amateur Collaborations
Russ Genet/Tom Smith	13:45	14:15	CCD Photometric Observations and Statistical Analysis of the W Uma Eclipsing Binary V523 Cas
Graham Bell	14:15	14:45	Resurrection of a Research Telescope
Ted Howell	14:45	15:15	The Discovery Channel Telescope
Coffee	15:15	15:30	NOTE: Only 15 Minutes
Petr Pravec	15:30	16:00	Binary Asteroids
Richard Miles	16:00	16:30	Asteroid Phase Curves: New Opportunities for Amateur Observers
Sponsor Infomercials	16:30	17:15	Sponsors Infomercials

### Thursday 5/26

Coffee	08:30	08:45	
Welcome	08:45	09:00	
Mark Sykes	09:00	09:30	NASA/PDS On-Line Archiving Facility (OLAF)
Alan Harris	09:30	10:00	The Proper Asteroid Lightcurve Paper
Lance Benner	10:00	10:30	Recent Arecibo and Goldstone Radar Imaging of Near-Earth Asteroids

Coffee	10:30	10:45	NOTE: Only 15 Minutes
Ron Bissinger	10:45	11:15	Using a Distributed Observer Network to Characterize Transit Light Curves of Exoplanet TrES-1b
Jerry Foote	11:15	11:45	The Center for Backyard Astrophysics: Theory and Practice
Group Photo	11:45	12:00	
Lunch	12:00	13:30	
Eric Strum	13:30	14:00	An Experiment in relating CCD Differential Photometry Precision to Varying Degrees of Image Focus
Michael Koppelman	14:00	14:30	Uncertainty Analysis in Photometric Reductions
Coffee	14:30	15:00	
Bob Buchheim	15:00	15:30	The Magnitude and Consistency of Second-order Extinction at a Low-altitude Observatory Site
John Menke	15:30	16:00	Asteroid Photometry: Tricky Business
Valerie Desnoux / Christian Buil	16:00	16:30	Spectroscopic Monitoring of Be Type Stars
Thomas Kay	16:30	17:00	Implementation of a Fully Automated Spectrograph and First Data
Dinner	17:30		
Arne Henden	19:00	20:00	AAVSO and SAS: A Marriage Made in the Heavens

POSTER PRESENTERS

Cindy Foote	Searching for Extrasolar Planets
Dale Mais	Automated photometry, period analysis and flare-up constraints for selected Mira Variable Stars

Don't forget this years Riverside Telescope Makers  
Conference....immediately following the SAS Sym-  
posium



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## Membership Information

Membership in your new Society for Astronomical Sciences (SAS).

As was pointed out with the last issue, it was felt that a modest membership fee would greatly help SAS to produce a better product for its members. This fee will be \$25.00 per year, the same membership fee of the old IAPPP organization. What will this membership fee provide? Well for one thing it WILL NOT go to any committee members as part of their efforts within SAS. We volunteer our time for The Society.

Members will receive a discount for the registration fee each year for the Symposium at Big Bear. It will assure you that you will get a copy of the published proceedings each

year, even if you do not attend the Symposium. It will help defray costs in bringing in outside speakers (professionals) to the symposium.

Membership is annual and runs from July to June of the following year. To become a member, send \$25 to: Society for Astronomical Sciences, 8300 Utica Avenue, Suite 105, Rancho Cucamonga, CA 91730. You may also join online at the registration page of the web site. Membership dues are tax deductible.

We currently have 82 members with many renewals due in by June 1.

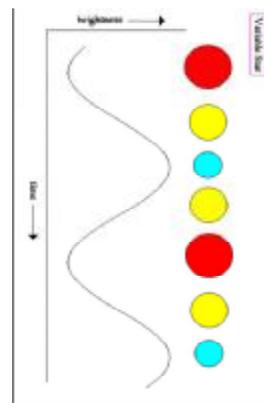
The SAS is a 501(c)(3) charitable organization.

## Your Participation Wanted!

As I have mentioned in previous Newsletters, we need your participation in the Newsletter. We don't want this to become a one person or just a couple person show. If you have an article which can cover a variety of topics, please put it together for a future Newsletter. Work in progress is always welcome. In addition, we have started a "letters to the Editor" section where we would like to add 2-3 letters from the members/participants. We had no letters to incorporate into this Newsletter edition. Constructive comments are always welcome as we are always looking for ways to improve not only the quality of the Newsletter but also the quality of the Symposium. We

want the SAS to become a year around organization not just a once a year group.

In this issue we have an article entitled "Easy Research" by Lee Snyder on page 5. Please participate and don't forget to get your registrations both for the meeting and the hotel in for the 2005 Symposium.



## News from the Working Group for Professional-Amateur Collaborations (WGPAC)

The WGPAC has been active over the past several months with several teleconferences and informal meetings at the American Astronomical Society meeting in San Diego this past January. I will be presenting an update at the SAS meeting on these activities and will be conducting a poll on behalf of the WGPAC and the AAS. The AAS is beginning to express more interest in the Working Group and the potential of more advanced amateurs to participate in the AAS. As of this writing my guess is that the poll will consist of a handout with questions that you can answer and

return to me (Dale Mais). This same poll will be conducted at an upcoming AAVSO meeting this March in New Mexico. With your responses we will better be able to determine some of the directions members and the WGPAC will be able to take. For more information go to the WGPAC web site at:

(<http://www.aas.org/wgpac/registry/>).



Bob Stephens photographing an eclipse. Just try doing this on a commercial flight!

### Important Future dates for 2005 Symposium

February 21, 2005	Last date to submit abstracts
February 28, 2005	Acceptance Information to speakers
April 8, 2005	Final papers submitted based on ac-
May 6, 2005	Anticipated printing run
May 25, 2005	Distribution at conference

by LeRoy Snyder

Thanks to the advent of CCD cameras, personal computers with ever more sophisticated software as well as technological and organizational developments; astronomical research with a small telescope is no longer a challenging problem. The Society for Astronomical Sciences (SAS) and numerous working groups are part of those organizational developments, sharing a common goal of enhancing and expanding the quality, quantity and variety of astronomical research by individuals.

Through formal and informal presentations at the annual SAS symposium and proceedings, interested amateurs and professionals are brought together and encouraged to contribute to research through the measurement of variable stars, asteroids, and other objects via photometry, spectroscopy, and other techniques. Sponsors of the SAS conferences are contributing to the development of observational, instrumental, and computational techniques.

Whether you are a newcomer ("neophyte") just getting interested, or an experienced amateur, your potential as a contributor to worthwhile research is invaluable. In fact, amateur researchers probably outnumber professionals by a significant number. This means the odds of fellow amateurs having similar interests to yours is great, and you will not be alone in your pursuits. What motivates an amateur astronomer? It is the opportunity to be involved with and contribute to astronomical science. Organizations like SAS that are set up to help amateurs accomplish research and publish their results. Many amateurs often believe the research projects they have heard or read about are too challenging. This is not entirely true because you are *not* alone. Instead, you will find many amateurs and dedicated professionals available via email and other means to get you started. Even more important, they are looking for those wanting to get started and will be particularly helpful in guiding you through the start up process.

Let me describe one of many simple projects that can truly be called EASY RESEARCH. With eclipsing binaries, there is a point in the orbit when one star is in front of a brighter star. This is when the system's brightness is at its minimum, hence the term "time of Minimum" ( $t_{\min}$ ). Determination of this time requires acquiring only a few CCD images immediately before and after this computed time. Furthermore, it involves

simple differential photometry, meaning there is no need to transform to a standard system. The required images can be obtained in two hours. Getting the  $t_{\min}$  for a number of systems provides valuable information. Collecting, organizing and publishing your research data gives you valuable practice in observing techniques, data reduction and publication. Any number of members of SAS can help you with an EASY RESEARCH project in which you are interested. So get started!

Eight years ago, Hoffleit (1996) made a search of several catalogues and found 225 eclipsing variables that needed additional precise observations and could be done with small telescopes. These are all bright eclipsing variables and are listed in table 1 of her publication. Getting data on these stars would be EASY RESEARCH and easily started.

Here is just a partial list of organizations that are promoting amateur research.

- SAS** Society for Astronomical Sciences – [lsnyder@SocAstroSci.org](mailto:lsnyder@SocAstroSci.org)
- CBA** Center for Backyard Astrophysics Utah – [jfoote@scopecraft.com](mailto:jfoote@scopecraft.com)
- WGPAC** Working Group on Professional-Amateur Collaboration – [dmais@SocAstroSci.org](mailto:dmais@SocAstroSci.org), [www.aas.org/wgpac/](http://www.aas.org/wgpac/)
- AAVSO** American Association of Variable Star Observers – [aavso@aavso.org](mailto:aavso@aavso.org)
- MPO** Minor Planet Observer – [bwarner@SocAstroSci.org](mailto:bwarner@SocAstroSci.org)  
Minor Planet Bulletin can be downloaded at [www.MinorPlanetObserver.com/mpb/default.htm](http://www.MinorPlanetObserver.com/mpb/default.htm)

Reference articles:

Ap&SS – Astrophysics and Space Science, 282.(1): 121-130, 2002 – Doing Research on Eclipsing Binary Stars with Small Telescopes and PC computers –

Hoffleit, D.1996, J Amer. Assoc. Var. Star. Obs., 24, 2, 105. Proceedings 23<sup>rd</sup> Annual Conference Society for Astronomical Sciences (SAS)