



FOCUS

DELAWARE ASTRONOMICAL SOCIETY

NEXT MEETING: TUESDAY, DECEMBER 13, 2005 --- CHRISTMAS PARTY

Caroline Herschel -- Lynn King (30 minute talk); What's Up – Taurus - Greg Lee

Mini talk – Off Axis Telescope -- David Groski (30 minute talk).

Mt. Cuba Astronomical Observatory at 8:00 P.M.

BOARD MEETING AT 7:15 P.M., ALL MEMBERS INVITED

Volume 50, No. 11
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PRESIDENT'S MESSAGE FOR DECEMBER

Merry Christmas, Happy Holidays, and a Very Happy and Prosperous New Year to Everyone.

The December meeting will feature two 30 minute talks, as listed in the heading, plus Greg Lee's talk on the Constellation of the Month, which is always very enjoyable and informative. I would much like to keep the December meeting talks on time so that we will have time after the meeting for a Christmas social hour with some goodies and time for a few lies about our favorite deep sky object. If you would like to bring some donuts, cookies, cake, or sodas to the December meeting please call Billie at 302-366-0938 prior to the meeting so that I can let David Sewell know. The Sewells have been providing the goodies at our meetings and we all thank them so much for the treats.

A big "Thank You" to Greg Lee, David Swartout and me for last months program. Let's have another full house in December.

The format for meetings this year will be as follows:

Board of Directors Meeting 7:15 P.M.

Program Meeting 8:00 P.M.

Fun and comradery after the meeting.

I would remind everyone that talking to others when someone is trying to give a talk, or has the floor, is very rude and will

not be tolerated by this President. Thanks to all of you for your support.

If you would like a tour of MCAO after the meeting, just ask me.

UPCOMING PROGRAMS FOR 2006

January 17 - The Messier Objects - Prelude To A Marathon -- Don Surles; What's Up – Auriga - Greg Lee; Mini talk – "Kirkwood-Highway & Asteroid Belt"-- Bob Mentzer.

February 21 - Astronomy Forum - by Bob Karcha's Dickinson High Astronomy Club; What's Up – Canis Major - Greg Lee; Mini talk – Extrasolar Planets -- Glenn Bentley.

March 21 - Green Bank Radio Astronomy -- Randall Detra; What's Up –Ursa Major - Greg Lee; Mini talk – Coming Attractions & Astronomical Events for 2006 -- Sara Baird.

March 25 - The Messier Marathon

April 18, 2006 - Galileo's Satellites -- Hank Bouchelle at Calvin R. McCullough Planetarium; What's Up– Bootes - Greg Lee; Mini talk – The Twin Quasar -- Billie Westergard.

May 16 - Dinner Meeting with Keynote Speaker Senior Editor Bob Naeye, *Sky & Telescope* Magazine; The Luther Porter Award; The Amateur Astronomer Of The Year Award; Location TBD.

June 20 - The No Spin Space Shuttle -- Mike Borgia; What's Up -- Draco - Greg Lee; Mini talk - Degenerate Matter.

June 24 - Picnic at MCAO with a cookout and other activities.

New Member Tour of MCAO Available After Each Meeting.



WHAT CAN YOU DO WITH A WEBCAM?

-- Bill Hanagan and Mark Hutton

Above is a picture of Mars taken using a Philips ToUCam Pro 840K webcam at a resolution of 640 X 480 pixels. Exposure: 1/33 second per frame at 5 frames per second for 3 minutes, from 8:31-8:34 P.M. on November 20, 2005. This produced a 900 frame video sequence (AVI file).

This is a composite image of the best 140 frames, selected, stacked, aligned, and processed to accentuate details using Registax 3 freeware. There is a large cloud near the northern pole (bottom of the photo) that has a pronounced bluish tint. This feature and its bluish color were both visually observable through the Sawin's 12.5" telescope. There is also just a hint of an ice cap at the southern pole (top of the photo). Dark and light areas on the surface of Mars are also visible.

The telescope used was Mt. Cuba Observatory's Meade 10" LX-200 f/6.3 masked down to 9" aperture to block off a "Turned Down Edge". The telescope was taken outdoors and allowed to cool for 2 hours prior to acquiring images. Auxiliary magnification was obtained using a Televue 4X Powermate between the telescope and the camera. The resulting effective Focal

Length and Focal Ratio were 6.4 meters and f/28. An IR cutoff filter was used to prevent infra-red light from dominating the image. Each pixel on the camera measures 5.6 microns in width and height.

Compared to astronomical CCD cameras, which often cost several thousands of dollars, a webcam equipped for astrophotography costs only about \$200 including a focuser adapter and IR filter. Unfortunately, webcams are generally incapable of recording faint deep-sky objects like nebulae, galaxies, and starclusters because the shortest exposure time they allow is only about 1/25 second. This can be extended if you're willing to risk damaging your camera by modifying the electronics to allow longer exposures. But, even such modified webcams are limited to exposure times of a few seconds because the detector noise becomes excessive at longer exposures and webcams lack the active cooling needed to keep detector noise in check. The more expensive astronomical CCD cameras use active cooling to suppress detector noise dramatically, which allows routine exposures of 10 minutes or more.

While webcams won't replace expensive, cooled astronomical CCD cameras for photographing deep sky objects, they are well suited for photographing small bright objects like the moon and the planets Mars, Saturn, and Jupiter. Webcams can acquire 5-10 images per second, while expensive astronomical CCD cameras with large, cooled image sensors typically acquire only 1 image every 2-30 seconds. The high rate of image acquisition supported by webcams allows the astrophotographer to obtain a massive number of images and later select individual frames that match glimpses of better than average seeing. Post-processing software like Registax3 can help you to quickly choose the best frames out of several hundred, align them to compensate for image movement, and stack them to produce a low noise composite image.

STAR PARTIES AT MT. CUBA

--Tom Sidowski

Friday night star parties continue when weather permits. These star parties are primarily for DAS members, family and friends, but in reality we don't turn anybody away. If you want to learn a little more about

the heavens, check out other telescopes, get help with that new telescope you recently acquired, or just enjoy the celestial sights, then come on out to a DAS star party at Mt. Cuba. The next star party will be held Friday, January 6th at 7:30PM.

DAS 50TH ANNIVERSARY

--Emil Volcheck

In the fall of 2006, the DAS will mark its 50th year of operation. It seems appropriate to have a suitably grand celebration for our being able to hang in there for that long, without being reduced to a small group of old men meeting for lunch, or booze, at a local watering hole occasionally!

To pull together such a celebration, will require participation from some of you. So, this message is an appeal for folks to volunteer to partake in the committee. The initial work will be brainstorming for ideas on what kinds of activities we should try to include in the celebration - then bring a proposed program back to the board and members for approval.

I expect that there would then be follow up by folks (including some members beyond the original group) who would take on the various elements of the proposal and make them happen. I have agreed to get the process started and will need your help! So, please give me a call (610-793-5156) or email me (emilv@ccil.org) to let me know that you are interested and willing to be part of the first phase of the celebration.

LIBRARY NEWS

--Glenn Bentley

I would like to take this opportunity to invite the membership to drop by the lending library at the December meeting to check out potential reading material for the coming snowy evenings. The DAS Library wishes you and yours a safe and merry Christmas.

NEW OBSERVING LIST BOOK

-- Emil Volcheck

If you are actively observing and want a good field reference book, you might want to check this one, which has received good reviews by several experts. This is the advertising description:

Objects in the Heavens, Third Edition
The Complete Mag-10 Northern Deep-Sky Fieldbook, by Peter Birren with photography

by Naoyuki Kurita. 116 pages; black coil; laminated covers; 5.5" x 8.5". Special 2005 pricing @ \$18.25 plus S&H

Summary: Concise reference guide shows all known brighter deep-sky objects. Features object-oriented maps paged with basic descriptive listings, arranged by constellation for ease of use in city and dark site viewing. Pocket-size astronomy field guide features all known deep-sky objects to Magnitude 10 for telescope and binocular observation. All types of galaxies, clusters and nebulae were painstakingly culled from every available catalog, organized and cross-referenced for ease of use at the viewing site. Object-oriented maps include special symbols to aid in identifying objects, stars, double stars and asterisms. Simple enough for the beginner, detailed enough for the advanced observer. The spiral-bound Third Edition features 680 northern hemisphere deep-sky objects, all with Y2K or better hyparcos data. Those objects of magnitude 7 and brighter - city objects - are highlighted in the lists and in the 63 maps. Astronomical details are in 'expanded shorthand' and set large for reading by flashlight. Newly included are 144 double/multiple stars and several brief constellation grouping stories which present the bigger picture. These stories have proven helpful teaching the sky to kids of all ages. This multi-purpose guide is most convenient at the viewing site instead of carrying bulky books and computers, or as a companion to a larger sky atlas when planning a night's viewing. Its compact size also makes it ideal for camping, hiking or in the car.

LOANER TELESCOPES -- Emil Volcheck

If you are new to the club and/or do not have a scope, you can get the loan of either:

- 1) a Celestron 8" Schmidt-Cassegrain
- 2) an Orion 6" Dobsonian reflector

The loan is for at least a month (depends on how long the waiting list is). To get on that list, promptly, contact Emil Volcheck, 610-793-5156.

MCAO PUBLIC NIGHTS

-- Emil Volcheck

The Mt. Cuba Observatory Public Nights will continue right thru winter! You can pick up a schedule when you next come to a

meeting - or get the latest updated version off the website at:
<http://mountcuba.org>.

AWARDS

--Dave Swartout

The DAS is currently soliciting its membership for nominations for both the Amateur Astronomer Award and the Luther Porter Award. Please be aware that Amateur Astronomer Award is awarded to a member of the DAS while the Luther Porter Award is open to the general astronomical community. The 2005 recipients were James Morgan for Amateur Astronomer and Emil Volcheck for the Luther Porter. The awards are presented at the annual dinner meeting held in May. Nominations can be E-mailed to me at microcad@isp.com

SAWIN OBSERVATORY REMINDER

-- Tom Sidowski

DAS members who are interested in becoming users of the Sawin Observatory and/or the Big Red DOB, should contact me at 302-239-1844 to arrange for some hands-on training in using the facility.

AMATEUR TELESCOPE MAKERS SPECIAL INTEREST GROUP – Bill Hanagan

The ATM SIG generally meets on weekends to discuss and work on many aspects of telescope making. If you are interested in building your own telescope, please e-mail me at the address below. If you are interested in joining this group, please e-mail your name, address, and phone number to me at: HanaganW@attglobal.net using your preferred e-mail account to send the requested information.

SAWIN OBSERVATORY MAINTENANCE

--Tom Sidowski

The club's Sawin Observatory was renovated last summer, inspected and found to be in good order. It is ready to be used by DAS members who wish to observe the skies with a high-quality instrument. If you would like to get checked-out as a key holder of the Sawin observatory, just contact me to set up a time.

DAS FORUM/E-MAIL SITE ON YAHOO

--Don Shedrick

This is a restricted e-mail service for use by DAS members for DAS purposes. To use this site, go to <http://groups.yahoo.com>;

search for [delawareastronomicalsociety](http://delawareastronomicalsociety.org); and click on the link that comes up. To join, you must have a Yahoo ID and password; if you don't, you can register at this time by following Yahoo's instructions. You will then be allowed to "Join the group" upon clicking in that box. You must then register for the DAS group and add your profile by clicking on "add new profile" and completing the form. When adding or editing your profile, you will need to enter your actual name in the "Real Name" box so you can be identified as a DAS member so Don Shedrick can approve your application to join the DAS group, and everyone will know to whom they are communicating. Finally, specify your desired e-mail address for delivery of messages. Note you may choose to not have your name and email address displayed to anyone other than DAS members who are members of the Yahoo DAS email group. For more detailed instructions, go to the DAS web site under DAS Resource Links.

MEMBERSHIP EXPIRATION NOTICES: If the mailing label on the envelope containing your *FOCUS* is marked with Red Marker, your membership is expiring or has expired. To continue to receive the *Focus*, *Sky and Telescope*, and *Reflector*, send the renewal form below with your check to:

DAS, c/o Robert Mentzer
605 River Road
Wilmington, DE 19809

Or give it to Bob at a meeting. Thank you.

Call any of us with your concerns!

DAS CONTACTS

Membership: Any of the following:

President: Billie Westergard ----- home 302-366-0938
Work 302-622-

7347

Vice President: John Case ----- 302-836-4888

Secretary: Lynn King ----- 302-764-8816

Treasurer: Bob Mentzer----- 302-764-1926

DAS/MCAO Advisor: Emil Volcheck---- 610-793-5156

Education Chair: Bob Karcha ----- 302-999-9509

Messier Club: Lynn King ----- 302-764-8816

Observing: Greg Lee ----- 302-762-5358

Youth Coordinator: Sarah Baird ----- 302-292-8950
 Archivist: Rene Van Caneghem ----- 410-392-3718
 Board Members at-large:
 ATM and AP SIGs: Bill Hanagan ----- 302-239-0949
 Chairman, Observatory Committee and DAS Monthly Star Parties: Tom Sidowski ----- 302-239-1844
 By-Laws: Henry Bouchelle ----- 302-983-7830
 Light Pollution Strategist; Greg Weaver 302-239-1338

Library Chair: Glenn Bentley ----- 610-869-0706
 Ad Hoc Star Parties: Sheila Vincent - --- 302-322-4739
 Elections Comm. Chair: Costas Krekellis 302-478-9099
 Awards Comm. Chair – David Swartout 302-836-4618
 DAS PowerPoint Adviser–Max Peterson 302-369-6982
 MCAO Web Page: www.mountcuba.org
 DAS Web Page: www.delastro.org
 Focus Editor: Lee Kaser, Phone 302-995-6251
 Fax: 302-995-6805
 E-mail: kaserlo@msn.com

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MEMBERSHIP APPLICATION OR RENEWAL FORM

If you have questions, call any of the member representatives listed above. Otherwise, just check the appropriate boxes and complete this form. Cut it off and send it with your check to Bob Mentzer at his address above. The magazine prices are group rates to DAS members. Thanks, and welcome to the DAS if you're just joining us for the first time.

New Member
 Renewal

Senior/Family Membership	\$20.00	<input type="checkbox"/>
Junior membership (16/under)	\$10.00	<input type="checkbox"/>
Sky and Telescope Magazine	\$33.00	<input type="checkbox"/>
Astronomy Magazine	\$34.00	<input type="checkbox"/>

NAME _____

STREET ADDRESS _____

Total Submitted -----

\$ _____

CITY _____ STATE _____ ZIP _____ TELEPHONE _____

E-MAIL ADDRESS (optional) _____

Do you have a telescope? _____ If yes, please describe briefly. _____

Call us with any questions. _____
