

FOCUS

DELAWARE ASTRONOMICAL SOCIETY

Next Meeting December 19th “Deck the Halls” its our Annual Christmas Party

Volume 51, No. 10
December, 2006 (OUR 50TH YEAR)

PRESIDENT’S MESSAGE – Hank Bouchele

Folks:

Many thanks to Bob Mentzer for his talk on sundials at the November meeting. We can always anticipate that Bob will have an interesting and informative presentation. And who would have thought that there is an organization dedicated to cataloguing the locations of public sundials? Bob, thanks again!

This month’s meeting features our annual Christmas party! Be sure to bring out those goodies and share the warmth and camaraderie of the season. We will have a swap table where you can make available those astronomy-related items you no longer want but that could use a good home. We will also have a mini-talk on the aurora and a show in the Observatory’s planetarium – and more!

Be sure to mark your calendars for the April regular meeting and May dinner meeting, which will feature celebrations of the 50th anniversary of the DAS. We are looking for people with ideas and energy to help make it an event to remember. Emil Volcheck is coordinating the effort.. Let him hear from you at his e-mail address: mtcuba@udel.edu.

Among the awards the DAS offers each year are two of special note. The Amateur Astronomer of the Year Award is presented to a member who has made significant contributions to the Society. The Luther J. Porter Educator Award is presented to an individual who has made significant contributions to astronomy education or awareness of astronomy among the public. It is not too early to think about deserving nominees. Gus Swartout has agreed to chair this year’s Awards Committee. Please get in touch with him at any meeting or at: David.A.Swartout-1@invista.com.

And please remember that all members are cordially invited to the DAS Board of Director’s meeting, especially if there is an agenda item about which you would like to have input. We meet in the Mt. Cuba library just before the regular meeting. Please come!

Board of Directors’ Meeting Agenda– Hank Bouchele

(More than we can accomplish in one meeting, but important items, all)

Review of Minutes
Treasurer’s Report
DAS Anniversary
Reports on...

Setting up a meeting time to get the ball rolling

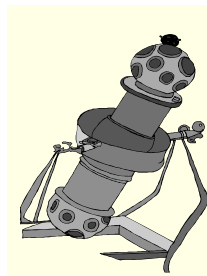
Dinner meeting
Our speaker?
Budgeting?

Library
Education Programs
Sawin Observatory
Other?

President’s Report
Awards Committee formed
Awards Study Group formed

Cancellation alerts
Youth outreach
Status of DAS Banner

Special Planetarium Presentation For December Meeting - Emil VolCheck



For the December Party, a feature will be a full-dome show in the MCAO SciDome Digital Theater. The 'producer', Rob Lancaster, will do two showings - each about 20+ minutes long at ~8:30P and ~9:15P. Each showing can accommodate about 22 folks; so everyone should be able to attend one or the other. Here's

a description of the show:

"Seasons and the Fall Sky" is a planetarium show produced entirely by Dickinson College students who were members of the Dickinson College Astronomy Club in 2003 for the Charles M. Kanev Planetarium in Carlisle PA. "Seasons and the Fall Sky Part 1" is an adaptation of the original production that was produced by Robert Lancaster, one of the original producers, with the assistance of Meredith Jackson, for use in the Mount Cuba Planetarium in Wilmington, Delaware. This show is an exploration of the constellations and asterisms of the fall sky including such famous ones as the Big Dipper, Ursa Major, Ursa Minor, the Summer Triangle, and Cygnus the Swan. It also is an introduction to some of the basic concepts of astronomy including the meaning of the Zodiacal signs, the mythology surrounding the equinoxes, and the reason we see different stars in the winter than we do in the summer. In the course of the show, a number of deep sky objects will also be investigated, including many that you can see in a small telescope.

We hope you'll all take the opportunity to see some of the capabilities of SciDome.

STAR PARTIES AT MT. CUBA – Tom Sidowski

The schedule for DAS star parties at Mt. Cuba for the remainder of 2006 and the first part of 2007 are as follows:

Day	Date	Time
Friday	December 15th	7:30 pm
Friday	January 15th	7:30 pm
Saturday	February 17th	7:30 pm
Saturday	March 24	8:00 pm
Friday	April 20th	8:00 pm

Fifty Year celebration - Dave Swartout



Do you have any old photographs of DAS members and events? Past star parties, picnics, dinner meetings..... We would like to use them as part of our celebration. A photographic history showing the people who helped started and continued the society for fifty years. There is no need to worry about damage to your photos since they will only be scanned and then promptly returned to you. Any medium is accepted, color, black and white, print, negatives, electronic..... So search through those drawers, shoe boxes and photo albums you might be surprised with what you find. Please contact me at david.a.swartout-1@invista.com for pick-up and delivery.

Journal Watch: the Antikythera Mechanism - Marc Hutton

Editors Note- While there are some journals and magazines that the vast majority of club members read each month, i.e. Sky and Telescope and Astronomy, I am sure that there are numerous others that only one or a few of us read that might have articles

that are of interest to the entire group. I would like to encourage everyone to make the membership aware of those articles by either submitting the reference or even a short summary in your own words that we can publish.

Occasionally there is an archaeological find that surprises modern science with its technological sophistication to such an extent that it forces us to rethink what exactly was "state of the art" in classical antiquity. One such find, an astronomical calculator now known as the Antikythera Mechanism, has been known to modern science for over a hundred years and it continues to astonish with its mechanical sophistication. The 30 November 2006 issue of the science journal Nature (vol. 444 pages 587-591) contains a paper by Mike Edmunds and his colleagues which offers the most complete analysis to date of this wonderful yet mysterious device; the most sophisticated found yet for well over a millennium after its estimated construction date of between 150-100 BCE.

The Antikythera Mechanism gets its name from the fact that it was found off the islet of Antikythera, a small island located midway between the Peloponnese and Crete. It was found by a group of Greek sponge-divers in 1900 after they had sheltered from a storm in the lee of the island. What survive today are 82 fragments that are housed in the National Archaeological Museum in Athens Greece. Based on the examination of these fragments, the original device is thought to have been made up of at least 30 interlocking gear-wheels, and to-date no earlier geared mechanism of any type has ever been found. It has been known since the 1970's that its original purpose was to calculate and display celestial information and yet nothing that even approaches its level of technological sophistication appears again until the advent of astronomical clocks in medieval Europe.

Edmund and his team's analysis have clarified the function of the front and back dials of the mechanism. The front dials were marked to display the zodiac and the solar calendar. It also had pointers for the Sun and the moon and also indicated the lunar phase. The dials on the back of the device indicated time in terms of two astronomical cycles; the Callippic and the Saros cycles. The Callippic cycle is related to, and an attempt to improve upon, the Metonic cycle which predicts the relation between lunar months and solar years. The Saros cycle is also related to the lunar month and can be used to predict the occurrence of solar and lunar eclipses.

One of the most intriguing conclusions of the paper is that the Antikythera mechanism attempts to approximate a geometrical model of the first lunar anomaly, the first attempt to approximate the irregular nature of the Moon's motion, which had been developed by the astronomer Hipparchus of Rhodes in the second century BCE. It accomplishes this via a pin-and-slot device connecting two superimposed gear-wheels, one slightly off-center, which induced a quasi-sinusoidal variation in the movement of the Moon mechanism. Since there is evidence that the ship which had carried the Antikythera mechanism had recently visited Rhodes before sinking, the authors speculate that Hipparchus might even have been involved in the design of the mechanism or an earlier prototype which they hypothesize must have existed.

The primary goal of the authors' investigation was to set up a data archive which will allow for non-invasive

future research on the device to be conducted, so this is most certainly not the last word on this fascinating device.. Access to this data set will be available via the World Wide Web starting in 2007. Details, along with pictures, diagrams, and simulations can be found a www.antikythera-mechanism.gr.

NEW MEMBERS THIS MONTH -- WELCOME

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NEWARK DE

LOANER TELESCOPES -- Emil Volcheck

Spring's mild weather months will be a good time to get out and try your hand with a scope. So, 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
- or 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 or 302-654-6407.

MCAO PUBLIC NIGHTS -- Emil Volcheck

The Mt. Cuba Observatory Public Nights continue year round! In addition to learning about many aspects of the heavens, you'll have a chance to visit and view our all-digital full-dome planetarium! 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>.



DAS Astrophotography Special Interest Group (AP SIG) -- Bill Hanagan

The DAS Astrophotography Special Interest Group meets on Friday nights at 7:30 PM every other month at Mt. Cuba regardless of weather. The SIG also meets for photo shoots scheduled on 1-2 day notice to synchronize with the weather.

The monthly meetings are informal and typically include the presentation of astrophotos taken by the members along with an extended question and answer period. Objects commonly photographed include constellations, auroras, lunar eclipses, and planetary photos, as well as a wide variety of deep-sky objects such as nebulae, galaxies, star clusters, etc. The topics discussed cover the entire gamut of astrophotography, from how to get started with a minimum of equipment, to polar aligning your telescope, all of the way to the fine points of using auto-guiders and post-processing digital images.

If you are interested in joining the AP SIG, just email your name, address, and phone number to me at hanaganw@comcast.net.

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.

DAS AMATEUR TELESCOPE MAKING SPECIAL INTEREST GROUP (ATM SIG)

-- Bill Hanagan

The DAS Amateur Telescope Making Special Interest Group meets on evenings and weekends according to the availability of the members and the particular projects that are underway. The general range of activities of the ATM SIG includes all manners of telescope making, mirror making, and the making of accessories for telescopes and observing.

Anyone interested in joining us should email their name, address, and phone number to me at hanaganw@comcast.net.

LIBRARY NEWS -- Glenn Bentley

In less time than the fleeting flash of a streaking Geminid, 2006 has come and gone and the DAS is once again gathering in Mt. Cuba Library to celebrate the holidays. So I will take this opportunity to wish everybody a safe and happy holiday and invite you all to stop by the DAS Library during the festivities to review potential yuletide reading materials.

ATTENTION ASTRONOMY BUFFS; Free Planetarium Software - Emil Volcheck

Free software for Windows, Mac, and Linux - called the "Digital Universe":

<http://haydenplanetarium.org/universe/>

From the 'About' page: Since 1998, the American Museum of Natural History and the Hayden Planetarium have engaged in the three-dimensional mapping of the Universe. This cosmic cartography brings a new perspective to our place in the Universe and will redefine your sense of home.

The Digital Universe Atlas is distributed to you via packages that contain our data products, like the Milky Way Atlas and the Extragalactic Atlas, and requires free software allowing you to explore the atlas by "flying" through it on your computer.

The interface takes some getting used to and there is a nice tutorial at:

http://haydenplanetarium.org/universe/duguide/start_getting_started.php

DAS MEMBER CLASSIFIED ADS

Telescope For Sale -- Mary Lou Ponsell

Celestron G-5, model 11051; Schmidt-Cassegrain; aperture 5"; foc.length 1250mm; f10; finderscope 6x30.

Two eyepieces: 25mm SMA, 1 and 1/4"; 7.5mm. Star diagonal. Adj. aluminum tripod with accessory tray. RA motor drive. Like new. \$500 or best offer. Contact Mary Lou Ponsell at <mlponsell@yahoo.com>, <mlponsell@aol.com> or phone 302-478-5897 day and evening.

LEARNING AID - Emil Volcheck

The Mt. Cuba Observatory offers an aid to learning the sky. For new folks and not-so-new who want something easy to carry around, we have the "Night Sky" planisphere, at a price of \$3 each. This is David Chandler's design that provides much better constellation forms than most other such designs, to make finding them easier! Makes a nice gift, too!

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: Hank Bouchelle----- 302-429-4013
 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 Krikelis 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: Marc Hutton Phone 302-351-3415
 E-mail Huttonm@comcast.net

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 given on page 5. 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
 Junior membership (16/under) \$10.00
 Sky and Telescope Magazine \$33.00
 Astronomy Magazine \$34.00

NAME _____

STREET ADDRESS _____

Total Submitted ----- \$

CITY _____ STATE _____ ZIP _____ TELEPHONE _____

E-MAIL ADDRESS (optional) _____

Any Questions? Call us.