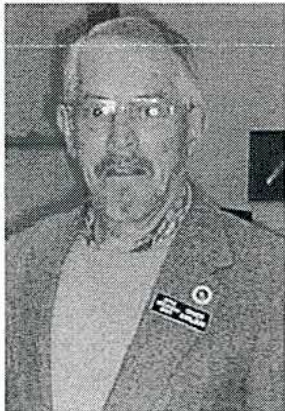
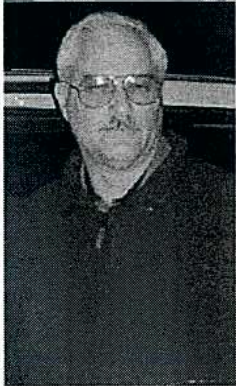




NEW E-BOARD

Elections were held at the February 6th General Meeting, with the new Officers and Board members to take office at the March 6th Annual Banquet. Pictured at top are: 1) Ted Cox, Board; 2) Norm Rosling, Board; 3) Frank Mancini, Vice President; 4) Steve Solon, President; 5) Carla Swartz, outgoing President; 6) Joe Gafford, Board; 7) Ron Pearson, Secretary; 8) Ron Mickle, Board; 9) Wayne Green, Board; 10) Dave Shouldice, Board; 11) Jack Eastman, Board. Pictured at left is Dan Wray, Board. Not pictured is Sandy Shaw, Treasurer.



We would like to say a "thank you" to Chuck Carlson, pictured left, for his years of service as the DAS Treasurer. Chuck chose not to run this year, but fear not, for we will continue to be graced by his gentlemanly presence at Society events.

THANKS CHUCK!

March 2004 President's Corner



For several months, the E-Board has discussed increasing membership dues, which haven't increased since 1996. This issue has developed for two reasons. First of all, the cost of printing and mailing the newsletters has increased dramatically. Secondly, the cost for the DAS to retain its membership with the Astronomical League has increased from \$3.50 per individual per year to \$5.00. The AL is the

(Continued on page 2)

DAS ANNUAL BANQUET

Come One, Come All !! 'Tis time for feasting at the DAS Annual Banquet !

Saturday, March 6, 2004 at 6 p.m.

The White Fence Farm

6263 West Jewell Avenue in Lakewood

Speaker: Doug Duncan, Director of Fiske Planetarium, Boulder. Talk title: "Hubble Highlights - Start to Finish...?"

Installation of the new Executive Board members.

Choices for entree are: complete chicken or turkey dinner -- please specify baked or mashed potato with your choice.

Cost per person: \$20.00. Please send check, and number in your party, BY MARCH 1st, to:

Steve Solon

9774 West Elmhurst Place

Littleton, Colorado 80128-5199

Make check out to "DAS" or "Denver Astronomical Society"

(Continued from page 1)

world's largest federation of amateur astronomers and is composed of over two hundred and forty astronomical societies in the US dedicated to encouraging an interest in astronomy. Belonging to the AL is a valuable resource not only to E-Board members and officers, but for club members as well. The quarterly newsletter, *The Reflector*, keeps us in touch with amateur activities all over the country and the AL sponsors observing certificates for its members.

Therefore, in order to keep up with the rising costs, the E-Board has decided to increase the dues to \$35 per year effective July 1, 2004. If you need to renew prior to July, the dues will remain at \$30, thereafter, they will increase to the new figure. We are instituting this increase mid-year to allow us time to notify everyone and give our members time to prepare for the increased cost.

Personally, my membership in the DAS has changed my life. Not only has it provided a forum for meeting wonderful individuals, but my interest in astronomy has increased ten-fold through exploring the heavens together.

As this is my last column, I would like to take the opportunity to wish the best of luck to all of the new officers and e-board members. Serving in this capacity will be a very rewarding experience and your dedication to the DAS will be greatly appreciated. It has been my pleasure and an honor to serve as President of the DAS.

~ Carla Swartz

Our speaker for the April 2nd DAS General Meeting is Dr John Bally--Professor at the University of Colorado at Boulder-Center for Astrophysics and Space Astronomy, Dept of Astrophysical and Planetary Sciences.

The 1st Quarter DAS Participant Prize will be an 8 x 32 WP Canon Binocular
Frank T. Mancini, V.P.

AstroQuiz

Q. Who was Giuseppe Piazzi?

-Answer on page 7-

SCHEDULE

March

- 5 8:00 PM E- Board meeting, Chamberlin Observatory
- 6 **ANNUAL BANQUET. SEE P. 1**
- 20-21 Dark Sky Site Weekend & Messier Marathon
- 27 Open House, 6:30 pm, Chamberlin Observatory

April

- 2 General Meeting at Olin Hall, rm 105, DU, beginning at 7:30. **Speaker: Dr. John Bally of CU at Boulder**
- 17-18 Dark Sky Site Weekend: Alternative Messier Marathon
- 24 Open House, 7:30 pm, Chamberlin Observatory
- 30 8:00 PM E- Board meeting, Chamberlin Observatory

FROM THE BEYOND-THE-LAST-MINUTE FILE...

The Class: Backyard Astronomy 101

The date: Saturday, February 28, 2004 --

Noon to 3 p.m. with refreshments

The place: Olin Science Hall, DU campus, room 105

The cost: Nothing, nada, zilch

The topics: Movement of the stars, reasons for the patterns, understanding distances and time, equipment for the first-time buyer, etc.

The teacher: Steve Solon

To register: Call 303-932-7613 and leave your name, phone number and the number in your party.

The Tesoro Foundation

Below; Jack Eastman & Medicine Man. Photo submitted by Vic Burhans

For several years, a few DAS members have participated in "The Night the Stars Fell", an event that is held in November and sponsored by the Tesoro Foundation at The Fort in Morrison. Recently, the foundation made a generous donation to our club for sharing views through telescopes with their attendees and were kind enough to treat our volunteer members to dinner.

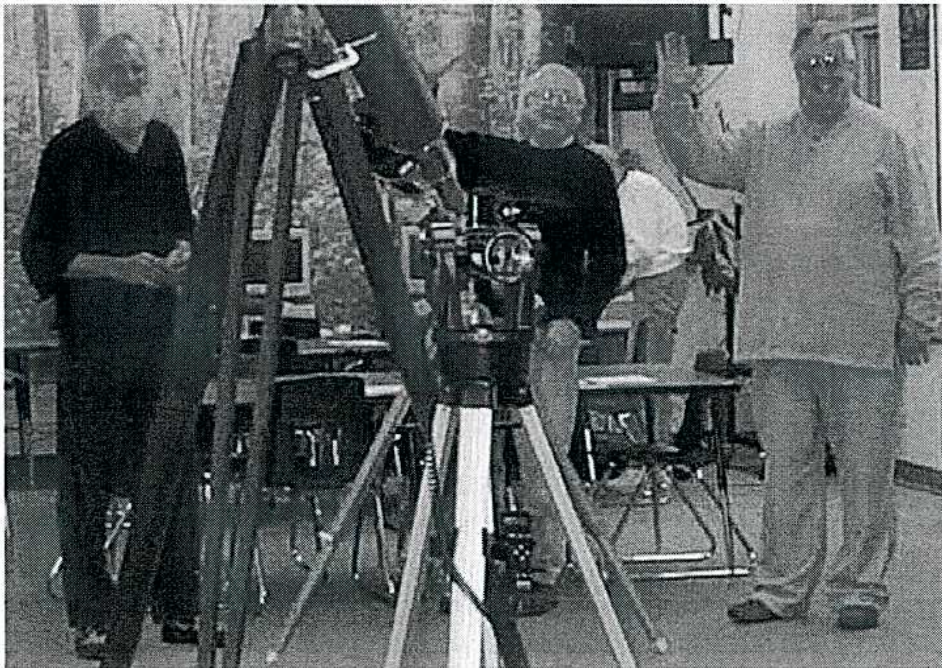
This annual event commemorates the Leonids meteor shower. The Tesoro Foundation (Tesoro means "Treasure" in Spanish) is committed to protecting and making available to the community the artistic treasures of our American past, by holding community based events and educational outreach programs designed to enrich and celebrate cultural heritage. These events are inspired by Colorado's rich history and shared experiences with Southwest, Spanish, Mexican, and Early European cultures.

Established in 1999, the foundation is a non-profit corporation. Their vision is to use Bent's Old Fort as a model to organize historic and cultural events as well as stage re-enactments of life during the early 19th century. Bent's Old Fort was an international trading center for the French, British, American, Mexican and Spanish settlers, as well as native tribes including the Arapahoe, Ute, Cheyenne, Kiowa, Lakota Sioux and Pawnee.

In 1962, Sam Arnold built The Fort (replica of Bent's Old Fort 1834-1848) as his private home, but as construction costs mounted, he decided to turn it into a dining establishment serving foods of the period. In 1963, in an effort to educate the public about the fur trade period and its importance in Colorado history, Arnold created a museum with educational displays and dioramas designed by exhibitors from the Denver Museum of Nature and Science.

Tesoro events celebrate this international mix of rich culture from our past with the annual Indian Market and Powwow, Historic Lecture Series, 19th Century Music Summer Concert Series, Spanish Market and 1840's Rendezvous.

We value the opportunity to participate in this event and hope our collaborative efforts will enhance the appreciation of the night skies. For more information visit them on the web at www.tesorofoundation.org. ~Carla Swartz



Jack Eastman, John Flemming, & Victor Burhans at Sheridan Middle School
Photo submitted by Vic Burhans.

Sheridan Middle School Science Fair

DAS member Bob MacArthur, a teacher at Sheridan Middle School, notified the DAS of a science Fair to be held Tuesday, February 3, 2004. DAS members Jack Eastman, John Flemming, Pauline Ide and spouse, and Victor Burhans and spouse attended, representing the DAS.

Heavy Clouds forced attendees into the library where the presentations were made.

Pauline Ide brought along her computer-based planetariums for the kids to run.

Jack brought his 6" Alvan Clark, John brought his 5" EQ mounted Maksutov, and Vic brought a 2.8" refractor, a 5" MAK, and a binocular mount w/binoculars.

Hand outs included SkyMaps and Orion Sky Charts for the month of February, 2004. John brought along a history of the development of telescopes.

Many questions from the kids and their parents were handled by the attendees. Hopefully a greater interest in astronomy was hatched.

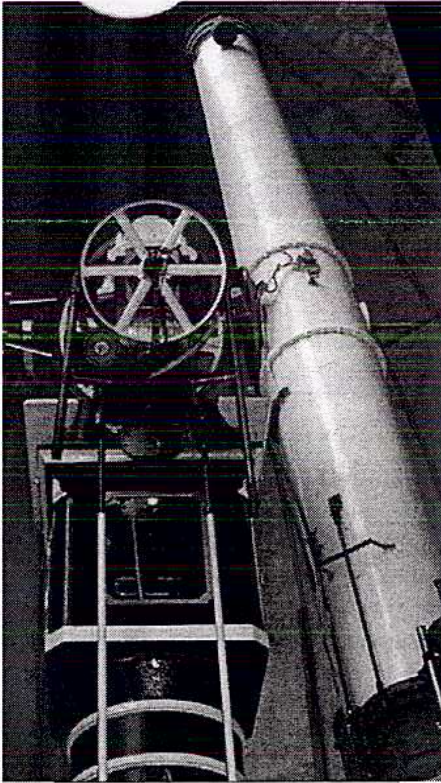
Well gee-winkies, Chuckles, I actually have a little space to write something for once! A big thanx to all those who contributed to this issue. A big thanx as well to Bill Ormsby. Bill has helped me out on numerous occasions by taking photos for me. Now that I have my own digital camera, I can "do my own damage," as Bill would say! Another big thanx to Chuck Carlson for his service to all of us. I will unabashedly say that most can learn from people like Chuck and Bill.



Public Night Operations

by Ron Mickle

The annual safety and recertification for the Chamberlin Observatory's Clark 20-inch was held January 17, 2004, with 21 scope operators and trainees in attendance. Recertification consisted of reviewing changes made to the Operator's Manual in 2003, re-keying of Chamberlin Observatory, proper handling of the public during Open House and Public Night operations, use of the gantry when being traversed by young and elderly persons, assigning duties to trainees during their apprenticeship and inclement weather procedures.



The Historic Alvan Clark 20" Refractor

during Open House and Public Night operations, use of the gantry when being traversed by young and elderly persons, assigning duties to trainees during their apprenticeship and inclement weather procedures.

Dave Trott, Deputy Director of Chamberlin, expressed his as well as Dr. Bob Stencel's [Director] appreciation of the continued safe operation of the scope during 2003, and noted

2003 was an incident/accident free year for Chamberlin Observatory.

Those in attendance were: Ted Cox, Darrell Dodge, John Doran, Doug Dreher, Brad Gilman, Wayne Green, Todd Hitch, Stuart Hutchins, Rich Lane, Rich Loper, Frank Mancini, Ron Mickle, Bill

Ormsby, Kathi Rake, Daniel Rake, Norm Rosling, Carla Schwartz, Sandy Shaw, David Shouldice, Steve Solon and Dave Tondreau.

DAS Public Night volunteers in Apprenticeship training for certification on the Clark 20-inch are Angel Canann, Courtney Kais, Stuart Hutchins, Daniel & Kathi Rake and Sandy Shaw. Following their apprenticeship training, each will be required to complete a final "checkride" conducted by the observatory's Deputy Director.

As a member of DAS, if you are interested in volunteering to assist in Public Nights or Open House, please contact one of the Public Night staff listed above, a DAS Officer or an E-Board member. As a volunteer, you are not required to be certified on the scope, only to have a love of the science and enjoy working with the public!

The following article is offered by Ron Mickle, Denver Astronomical Society, for reprint by permission of the authors and the International Dark Sky Association. This is the first of three parts to appear in the Observer.

The Aging Eye

by Joan E. Roberts, Ph.D. [Professor at Fordham University, NY] and Naomi Miller [Naomi Miller Lighting Design, NY]

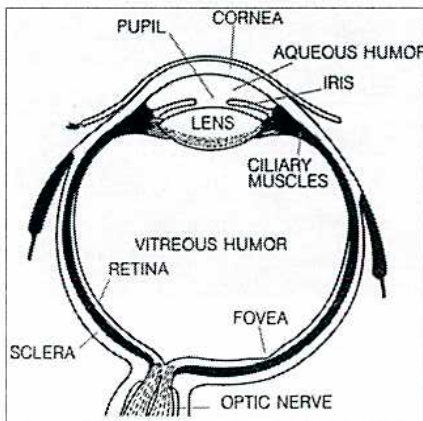
The human eye is one of the first organs to decline with age. Beginning at 40 years of age, there are changes within the eye that by 80 years of age lead not only to loss of vision but erratic circadian rhythm. Fortunately, we have begun to understand some of the causes of this loss and can make a few scientifically based suggestions to help sustain vision with age.

As you can see in the figure below, the sclera is the outermost layer of the back of the eye. The sclera protects the eyeball, but thins with age and so that the eyeball is more susceptible to physical injury. The cornea makes up the outmost layer in the front of the eye. It serves to focus incoming light onto the lens and filter out damaging ultraviolet (UV) light. Calcium and cholesterol may deposit on the older (60+ years) cornea leading to some distortion of fo-

cus. Dietary changes and sunglasses can help slow this deterioration.

The iris lies behind the cornea. Its opening, the pupil, expands and contracts to control the amount of incoming light. As the muscles that control the pupil size age, the pupil dilates in the dark and contracts in the light at a slower pace. Called senile miosis, this means that older individuals have more difficulty adapting from bright to dark spaces, or seeing details in shadowy areas. Likewise, in daytime, it takes longer to adapt from darker indoor to brighter outdoor spaces.

The iris and the lens are bathed in the aqueous humor, a fluid that maintains intraocular pressure. Behind the lens is the vitreous humor, a fluid that supports the lens and retina.



The human eye. Illustration courtesy of the Illuminating Engineering Society of North America

After 40 years old, the eye can be injured by both sunlight and bright artificial light thanks to declining concentration of protective antioxidants in the aqueous and vitreous humor, lens, and retina. You can re-

place these missing antioxidants and help protect your aging eyes from light damage by increasing your intake of lutein, zeaxanthin, vitamins C and E, and zinc, either in your diet or with supplements.

Behind the iris is the lens, which focuses light onto the retina. Focusing requires the actions of the ciliary muscles. As these muscles age, the lens becomes rigid and you may find it difficult to focus on close objects. Fortunately, reading glasses can correct this problem, known as presbyopia.

To Be continued

[Article provided to the International Dark Sky Association by courtesy of the authors, Joan E. Roberts, Ph.D. (Professor at Fordham University, NY) and Naomi Miller (Naomi Miller Lighting Design, NY)]

MARCH (Martius) SKIES 2004

by Ron Mickle

At the end of March, all five of the naked-eye planets will be visible the same evening. According to the *Astronomical Calendar 2004*, this only happens once every few years. Look for Mercury, Venus, Mars, Jupiter and Saturn on the evening of March 29.

Both Mercury and Venus reach their greatest eastern elongation on March 29. As the Sun sets, look to the west. Mercury will set approximately 1½ hours after the Sun, while Venus sets approximately 4 hours after sunset. Further along the ecliptic is Mars at magnitude 1.5, followed by Saturn and Jupiter.

Remember that members of the Denver Astronomical Society have free access to the Clark 20" at the Historic Chamberlin Observatory during Open House.

- 5.....Spring equinox on Mars
- 6.....Full Moon
- 13.....Last quarter moon
- 19.....Vernal Equinox, 23:49 MST
- 20.....New Moon
- 28.....First quarter Moon

Astronomical Calendar 2004

FOR SALE

Meade LX200 telescope; 10" f/10 Schmidt-Cassegrain reflector (\$2000)

Includes:

- Heavy duty Field tripod
- 18v DC power supply for Mead LX-200
- 10 x 30 spotting scope
- Go-to Keypad, cords, manual, AC and DC power cords
- Meade 12" superwedge
- Meade soft padded case for scope
- Meade tube balance weight system
- Meade electric focuser
- Meade model 647 Field De-rotater
- Meade off axis guider
- Scopesaver observing table
- Meade variable projection tele-extender
- Eyepiece with reticule illumination
- Contact David Litoff at (303) 929-9555 or email dli-toff22@earthlink.net

Below: M 106 by Steve Solon



COPY RIGHT STEVE SOLON

Below: M-82 by Steve Solon; LRGB image -- exposures of 40-25-25 and 40, respectively.



COPY RIGHT STEVE SOLON

The Gratuious Astro-Imagery Section

OFFICERS AND E-BOARD of
THE DENVER ASTRONOMICAL
SOCIETY

The Executive Board conducts the business of the DAS at 8 pm. at Chamberlin Observatory. Please see the Schedule of Events for meeting dates. All members are welcome.

OFFICERS

President Emeritus

Larry Brooks

President:

Carla Swartz (303) 246-6926

Csastrgirl@aol.com

After March 6th: Steve Solon (303) 932-7613

Galaxyshots@compuserve.com

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Frank Mancini (303) 414-0300

Frank.mancini@lpl.com

Secretary:

Ron Pearson (303) 670-1299

Rpearson@ecentral.com

Treasurer:

Chuck Carlson (303) 744-7331

Chcarlso@du.edu

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m6m7@earthlink.net

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Jack Eastman Bill Ormsby After 3/6/04; Wayne Green

Joe Gafford Sandy Shaw After 3/6/04; Dan Wray

David Shouldice Ivan Geisler After 3/6/04; Ted Cox

Ron Mickle Steve Solon After 3/6/04; Norm Rosling

ALCor: (Astronomical League

Correspondent)

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303-871-5172

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WWW.DENVERASTROSOCIETY.ORG

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AstroQuiz Answers

A. In the 1790s Giuseppe Piazzi, director of the Palermo Observatory, was busy updating a star catalog by astronomer Nicolas-Louis de Lacaille. The original catalog was filled with errors, so he had to check each star one by one. On the night of January 1, 1801, Piazzi observed a dim star not on the chart in the constellation Taurus. Checking the region the next night, he noted that the dim star had moved. After additional observations, he wrote "I have announced the star as a comet. But the fact that the star is not accompanied by any nebulosity and that its movement is very slow and rather uniform has caused me many times to seriously consider that perhaps it might be something better than a comet." The object proved to be the first asteroid discovered and it was later named Ceres. Piazzi's observations were not enough to calculate an orbit before Ceres disappeared into evening twilight; it could not be observed again until early fall. Then astronomers, including William Herschel, searched in vain for the asteroid and it was feared permanently lost. However, in the fall of 1801 mathematician Carl Friedrich Gauss was considering a new method of orbital calculation that would require only a few positions. Applying the work to Piazzi's observations of Ceres, Gauss predicted its current position. In December the asteroid was spotted where Gauss predicted but bad weather prevented confirming observations. Finally, on January 1, 1802, exactly a year after Piazzi discovered the first asteroid, independent observations by Baron Franz Xaver von Zach and Heinrich Olbers confirmed that Ceres had been recovered. *AstroQuiz is contributed by Sandy Shaw.*

About the Denver Astronomical Society

The DAS is a group of amateur and professional astronomers that share a mutual interest in the heavens. The DAS operates the University of Denver's Chamberlin Observatory, along with its prized 1894 Alvan Clark 20-inch refracting telescope. Our members have been involved with the first public planetarium at the Denver Museum of Science and Nature and the Smithsonian Astrophysics Observatory's "Moon Watch" program. The DAS successfully petitioned to have the Chamberlin Observatory listed on the National Register of Historic Places.

Our Credo is to provide members a forum for increasing and sharing their knowledge, to promote and educate the public about astronomy, and to preserve the historic telescope and observatory in cooperation with the University of Denver. To these ends we have established three tax deductible funds: the Van Nattan Scholarship Fund, the Chamberlin Restoration Fund, and the DAS Dark Sky Site Fund. This last fund was established in order to construct and maintain observing facilities near Deer Trail in eastern Colorado.

Please call our Info Line at (303) 871-5172 and drop by the General Membership meetings. Become a member and enjoy speakers, facilities, events, and our monthly newsletter, *The Denver Observer*.

Application for membership to the Denver Astronomical Society

New _____ Renewal _____
 Name: _____
 Address: _____
 City, State, Zip: _____
 Phone numbers: Home () _____ Work () _____
 E-mail Address: _____
 Occupation: _____
 Other Interests: _____
 (Associates Only) School: Grade: _____
 Do you want to download the newsletter in PDF format from our website instead of by postal mail?
 Yes _____ No _____
 Do you want the above information excluded from the yearly roster?
 Yes _____ No _____

Please Circle All That Apply:

Regular Membership: \$30 Associate: \$10 (Age 22 and younger)
 *****\$ _____
 Astronomy Magazine/\$29
 Sky & Telescope Magazine/\$32.95
 *****\$ _____
 Van Nattan Scholarship Fund *****\$ _____
 Chamberlin Restoration Fund *****\$ _____
 Total Amount Paid *****\$ _____
 Please mail Dark Sky Site donations to: DAS Treasurer, Sandra Shaw,
 at the address below. (Make checks payable to the DAS Dark Sky Site
 Fund). *Please complete this form, or a copy, and mail it with your
 check or money order payable to:*
 The Denver Astronomical Society: DAS Treasurer, Sandra Shaw;
 1095 Yank St.; Golden CO 80401



Denver Astronomical Society
 C/o Chamberlin Observatory
 2930 East Warren Avenue
 Denver, CO 80208



Membership Expires 1/1/2005

Bradley D Gilman
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