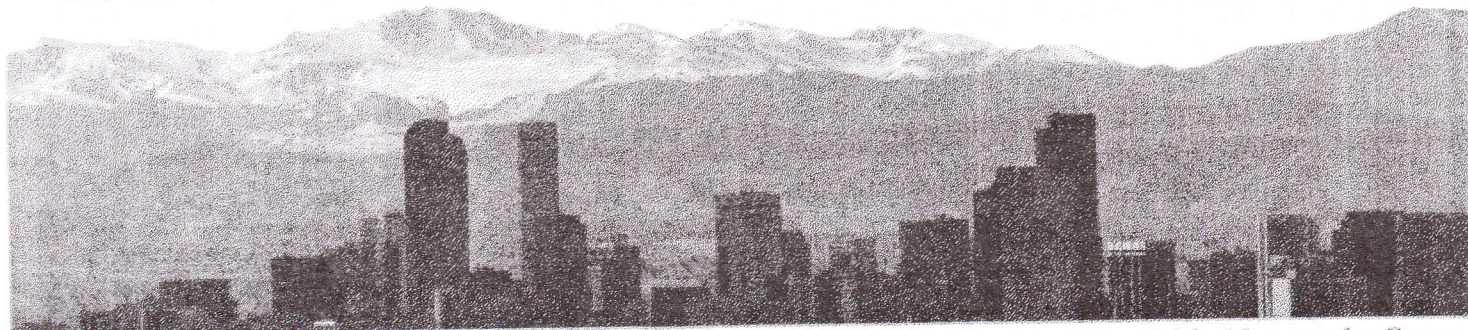


THE DENVER OBSERVER



Newsletter of the DENVER ASTRONOMICAL SOCIETY

One Mile Nearer the Stars

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DAS URL; <http://members.tripod.com/denverastro>

The Executive Board conducts the business of the DAS at 8:00 pm at Chamberlin Observatory; please see schedule for day of meeting. Everyone, and their input, is invited.

SCHEDULE

Volume XLVIII,
 Number IV,
 April, 2000

April 1 – Saturday – LOCAL STAR PARTY & Messier Marathon alternate. See p. #3 for directions.

April 2 – Sunday – Daylight Savings Time starts

April 8 – Saturday – Dusk.; Public Open House.

April 14 – Friday – E-Board Meeting @ 8:00 pm.

April 21 – Friday – General Meeting at Olin Hall, D.U. Campus, beginning at 7:30 p.m.

April 22 – Saturday – Work Day at Chamberlin; 9 am to noon.

April 30-May 7 – Texas Star Party.

May 6 – Saturday – LOCAL STAR PARTY; see p. #3 for directions and map.

May 12 – Friday – E-Board Meeting @ 8:00 pm.

May 13 – Saturday – Dusk.; Public Open House.

May 19 – Friday – General Meeting at Olin Hall, D.U. Campus, beginning at 7:30 p.m.

May 20 – Saturday – Work Day at Chamberlin; 9 am to noon.

May 26-29 – Riverside Telescope Makers Conference.

*** Chamberlin Observatory; Mirror Grinding Class starts at 10:30 a.m. Please see p. 2 for schedule. ***

**This Issue: DAS Group Photos,
 Powell Observatory Petition,
 Astrocon 2000**

SKY & TELESCOPE sends only one notice before your subscription ends. Remember, the cost of this, and the other magazines, is over and above our yearly dues. The DAS sends only one issue of The Denver Observer after your dues run out. Also, for questions concerning new memberships, renewal memberships, address changes, and magazine subscriptions, please contact DAS Treasurer Chuck Carlson (chcarlo@du.edu). Send in your money, with the renewal form on the back page to; DAS Treasurer, Chuck Carlson, 1521 South Vine St., Denver, CO 80210-2835

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As I sit here hopefully looking at the last major snowstorm of the season, I recall last week's trip to the dark sky site. It is a wonderful experience. Spring is on the way and the observing for us less hardy folk is just beginning to get going. I understand that last Saturday people were seeing the Horse Head in a 20-inch... WOW.

For those of you who do not have scopes, you are welcome also. Most members really enjoy sharing their scopes. The main exception are the photographers, once they have started to take pictures. Introduce yourself to the scope's owner and have a great time.

There are some things to do and not to do at the site. Use a red dim flashlight, and keeping it pointed down. Shut off your car lights as you enter the property. Pull your fuses or cover your dome light so you don't blind others when you open your car door. Ask before approaching or touching a scope. Wear warm cloths, bring some toilet paper and something hot to drink. Introduce yourself and enjoy the evening. The

best time to go is close to a weekend of the new moon. Saturday has the most people out there. During full moon, you will find no one out there.

You can find a map and directions by linking from our Web site. It is about 60 miles east of Denver on I 70. If you need a ride, call or email me and I'll try to get you hooked up with someone.

We are starting construction this spring and will continue throughout the summer. We hope to have a vault toilet, some pads and some electricity by the end of the summer. That will take money and people power. If you would like to make donation in money, send it to Chuck Carlson, the Treasurer. If you would like to volunteer, call or email me and I'll get your name to the proper people.

If you have any questions call me at (303) 986-5255 or email me at Lbrooks100@aol.com

Larry Brooks

Mirror-Grinding Classes

The schedule for mirror-grinding classes is as follows: April 1, 15, 29; May 13, 27. These are at 10:30 AM. Please call Terry Chatterton at 303-621-2442.

Powell Observatory Needs Your Help

The Astronomical Society of Kansas City owns and operates Powell Observatory in Louisburg, Kansas about 20 miles south of Kansas City. The observatory is located in Lewis-Young Park, on one acre of ground leased from the City of Louisburg, Kansas. Powell Observatory has been in this location for 18 years and was built by the members of the society for the enrichment of the community and the study of astronomy.

Powell serves over 3000 people per year in the area of public education and involves approximately 50 local amateur astronomers in significant research work. The research is done with both a 30cm LX200 and ST7E and 75cm Newtonian with ST9E, all of which have been purchased from donations from members and guests. So far there have been over thirty minor planet designations earned by the members who are involved with the research program working at Powell and from two backyard observatories in Olathe, Kansas. The Powell group performs needed follow up observations for other observers, who are clouded out or having equipment problems. It has always been our first priority. Follow up observations have been made by the Powell group for over 30 different observatories worldwide including many second night observations resulting in new minor planet designations for those observatories. In addition the Powell group performs many follow up observations of recently discovered Supernovae and reports magnitude estimates to VSNET and others.

Recently we learned by chance that the City of Louisburg Park Board was considering a proposal to build a BMX Dirt Bike Track in the park due south of the observatory right up against our property line.

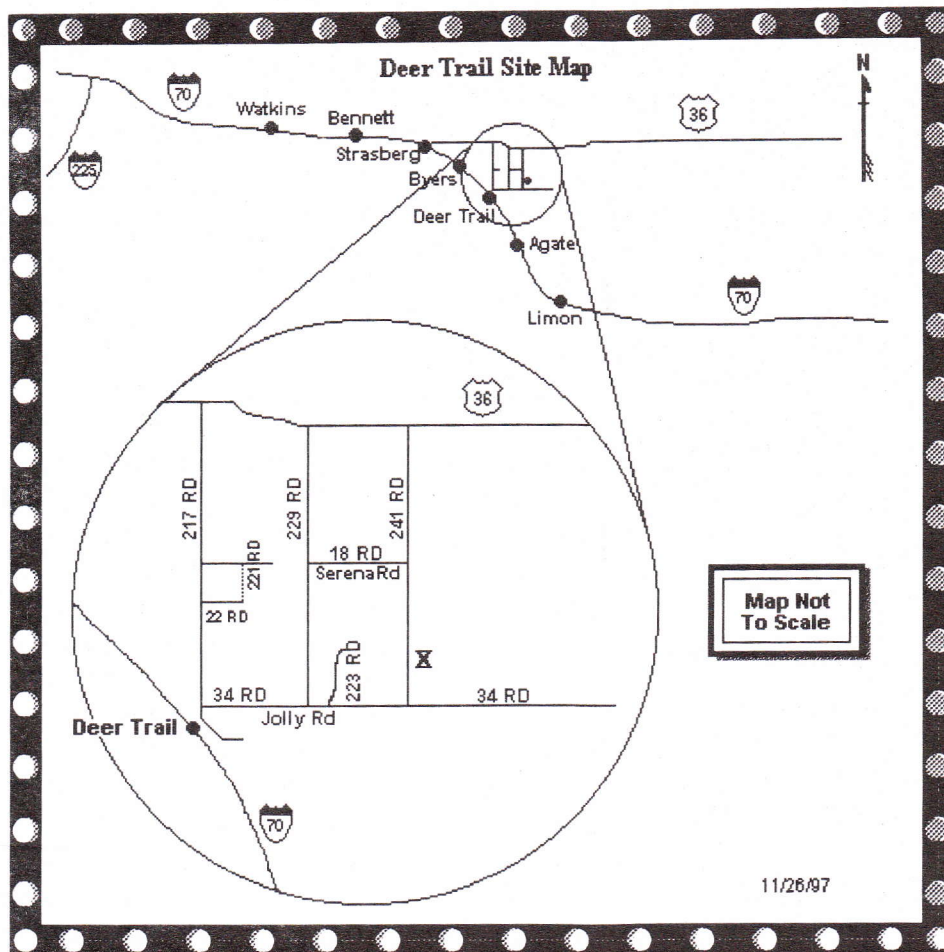
(Continued on page 6)

OBSERVERS WANTED

Monitor faint variable stars with the 20 inch telescope at Chamberlin Observatory. Part time: late nights and/or weekends. \$10/hour. Training available. Contact the Director, rstencil@du.edu.

Astrocon 2000 is only 110 days away!

We checked with the conference site, the Ventura



The DAS Deer Trail Dark Site is located about 60 miles due east of the Mouse Trap. To get there, take I-70 east to the Deer Trail exit (exit 328), turn left at the end of the exit ramp and turn left again after you pass the Texaco station on to CR 217. Take CR 217 a little over 1/2 mile to CR 34 and turn right (East). Stay on 34 about 6 miles until you get to CR 241. Turn left (North) on CR 241 and continue about 1.5 miles; there's a culvert with a wide gate on the right (East) side of the road.

Holiday Inn today (March 30th) and were informed that ONLY 29 rooms are left! They have held 200 rooms at a great price of \$99 per night. Remember, this conference is being held AT the hotel, and the hotel is ON the beach. If you cannot get a room at the Holiday Inn there are a number of other fine hotel/motels and camp sites in the area available. Visit the Ventura Visitors and Convention Bureau online for other choices; <http://www2.ventura-usa.com/ventura-usa/where.html>

The speaker slots are almost filled up as well. We currently have 6 spots open. If you would like to present a paper at Astrocon 2000, contact Paula

Berinstein TODAY! pberinstein@worldnetnet.att.net

During the week of March 13, Astrocon 2000 sent out over 3000 information postcards to the regular attendees of the Riverside Telescope Makers Conference. Since that time, the daily hits on our Astrocon 2000 website have tripled.

Registrations are pouring in, we currently have over 125 people registered, and we have averaged 30 downloads per day of the online registration form.

The online/credit card registration has taken us a bit longer that we had hoped for, but we expect it online early in April.

The Astrocon 2000 committee and the Ventura County Astronomical Society would like to thank our wonderful sponsors in advance for their great support; Sky and Telescope Magazine, Bushnell and Budweiser. See you all soon!

Tim Robertson
Astrocon 2000 Conference Chairman



An Argument for A Modern 51 Inch Reflector Telescope At Chamberlin Observatory by Ed Kline

Steeped in local tradition, the 20-inch Alvin Clark Refractor has served Colorado for 105 years. It is a lovely representation of American Astronomical technology for the late 19th and early 20th century. This telescope still has appeal based on its physical appearance. It yields great views of the moon, planets, double stars and the brighter star clusters. However, as an observing tool the worn out mount and fatigued tube, limited aperture, Denver light pollution and aging uncoated optics have restricted its use to a few of the brightest emission and planetary nebula. Clear or useful representation of reflection nebula and galaxies are beyond its capabilities. Still, as the center of the public outreach programs run by the Denver Astronomical Society, the telescope and programs have influenced many young people to pursue a technical education in the sciences and engineering.

The telescope has served the University of Denver, its owner, as a teaching tool for undergraduate studies over much of its lifetime. Observatory History, on a personal level, is a part of the lore of both the Denver Astronomical Society and the University. However, the 20-inch telescope, which dates from 1894, came into operation after construction of many larger and better appointed telescopes. Starting in 1873, with the 26-inch Naval Observatory Clark to the completion of the Lick 36-inch in 1888, six larger refractors were already in operation. These were not only bigger but better supported than Chamberlin's 20-inch. The 36-inch Crossly reflector was bought on line about 1894. Shortly after 1894, the 40-inch Yerkes (1898) and the 60-inch reflector on Mt. Wilson (1908) were completed. The 20-inch Clark was never at the forefront of astronomical research. Other larger telescopes were used during the period of 1890 to 1920 to change the way we see the universe. The historical place of this 20-inch Clark telescope in American Astronomy is not significant. However, it is a valuable antique. (Only a few Civil War Battlefields are protected; most of the less important ones are only marked with a sign.)

Astronomy has changed greatly over these years.

What was once an excellent tool to train undergraduate aspiring physicists, astrophysicists and astronomers is now a handicap to the educational process. Modern telescopes no longer appear to the current generation as they once did. Everyone recognizes that the large reflector is the current tool of astronomy. As with the 20-inch Clark, most of the big refractors have been relegated to museum pieces. Today, it is the beautiful late 19th century architecture of the observatory building that enhances local property values. Except for the antique minded, the telescope itself is not germane.

Today's need is for a telescope capable of penetrating Denver's sky with light gathering power sufficient to permit use of effective light pollution filters. The ability to point and track from a computer database and the ability to go-to a huge assortment of astronomical objects and show them well is required. Also necessary is the ability to auto-guide on these objects and free the student and observer to take and interpret data gathered by modern imaging and computer systems without being hindered by inadequate manually operated equipment. During Open Houses, those of us operating the 20-inch often hear remarks comparing images seen to the amateur scopes out back. These remarks usually express surprise on just how well the smaller modern scopes compare. The old uncoated glass objective barely transmits 80% of the light falling on it. If coated, the worn and contaminated old glass would still absorb significant light. The chromatic aberration inherent in the old crown and flint objective reduces to the ability of the telescope to work with modern electronic (CCD) cameras and spectrographs. It has become almost impossible for the Clark to produce images of sufficient quality to present useful challenges to the student when assigned astronomical laboratory projects. Updating the existing mount so that it could have data based go-to capability and auto-guide capability would be prohibitively expensive. The old German Equatorial mount would have to be entirely redesigned or replaced. Even then, this would only mean the optical limitations would have been moved to a better mounting.

The University's means are limited. To build an entire observatory on or near the campus with a larger telescope such as the suggested 51-inch would be many times as expensive as replacing the Clark. The University has found a pair of angels who will underwrite the cost of the fabricating and installing

the new telescope and mounting. One Angel is providing money and the other, a well-qualified professional telescope maker, is providing the scope at near cost so that he can have a showpiece instrument to advertise. He is even supplying a 36-inch optical train for use until the 51-inch optics can be completed. No funds exist for any other opportunity to get this kind of upgrade.

Denver University now bares the costs of operating and maintaining the observatory. These costs are heat, power, security, building maintenance, cleaning services, phone, insurance and so forth. A small percentage is being contributed from the public night funds. Without continued participation of the University, the Observatory will likely fall into disuse. Inability to use the observatory to support the Astronomy and Physics programs of the school will certainly lead to this conclusion. It is likely that University support will be withdrawn should the University of Denver conclude the observatory is no longer capable of functioning as a teaching tool. It is likely that Chamberlin Observatory will not be available to the public and the astronomical community for future generations. The Denver Astronomical Society hasn't shown the ability to fund Chamberlin alone. As of now, no one else has stepped forward.

The positives of upgrading Chamberlin with a modern Telescope are very real. The brighter images given by a larger telescope will greatly increase the number of objects available to the public view. Even the 36-inch optic set contemplated as an interim step will provide major improvement. At that stage, it will have three times the light grasp along with all the other advantages listed below. The final 51-inch telescope has nearly seven times the light grasp. Because of this and better light transmission, visibility will be increased almost 3 magnitudes. With appropriate light pollution filters, M-51 will be a bright and obvious spiral. Dust lanes and H-2 Regions will glow in M-31, M-33, M-101, M-104 and we will be able to see the "pillars of creation" in M-16. The Ring Nebula will have a central star, Gobulars such as M-13, M-3, M-15, M-2, and M-5 will be spectacular. CCD and low light television will reveal structure in M-1, M-26, and the needle.

The new telescope will be mounted as to ease operation. It will allow it to be used by many handicapped people and small children. Viewing of

objects toward the horizon will not require the climbing of a dangerous ladder to unsafe heights. The massive new mount will permit simultaneously viewing with TV and visual representations. The observing program on public nights and open houses can be coordinated with the presentations shown during slide shows and other programs. Rapid slewing and Go-To capability will speed observing and permit multi-object observing programs when smaller groups are using the telescope. Even expansion of the observatory facility is being contemplated. Computerization of the building will enhance studies. A class room/meeting room is being considered as an addition. Educationally, the improved and larger telescope will enable the undergraduates to work on more interesting and difficult problems.

In a broader view, Colorado is becoming a major center for astronomical research. The construction of the Pikes Peak Observatory and others being contemplated along with the continued expansion of the University of Colorado at Boulder program and the involvement of the expanding aerospace and electronics industries assures this. Even now, the University of Colorado already owns 10% of the Hubble Space Telescope's time for the year 2000. Denver University's participation in this growth can be assured by having an on-campus telescope capable of meeting the 21st century undergraduate educational needs. Concurrently, Colorado will have what is probably the largest telescope dedicated for continuous weekly public use in the country.

Promotion of astronomy is one stated goal of the Denver Astronomical Society. Preservation of the Clark is another. But, preservation of the Observatory itself should take precedence. Our society has a responsibility to carry forward into what will really be the space age. It is hoped that the Denver Museum of Natural History will include the Clark as a display object of Denver's History. The DAS should support and assist in helping this come to pass. Any other viable use of the old Clark telescope can be supported as long as the needs of the University and the astronomical community are met.

In truth, the 20-inch Clark has outlived its useful life. 105 years is a long and proud lifetime. On the other hand, the Denver Astronomical Society and Denver University Astronomical public and educational programs are more important than ever. We

(Continued on page 6)

(Continued from page 5)

owe it to the students, the public, our members and to our future members to remain and become even a greater center for astronomy and space sciences. The erection and operation of the improved telescope will protect the observatory. Along with development of our dark sky site, we will be sure to continue and improve our participation in the community. Denver University is committed to astronomical outreach. I believe they would like nothing better than to continue the public astronomical programs.

Ed Kline.

On the Clark Telescope

By Wayne A. Kaaz

As a newcomer to the DAS I know I don't share the same protective attitude towards the Clark 20" telescope as many of the members do, but I would like to express my position with respect to Dr. Stencel's proposals for the upgrading of the Chamberlin Observatory equipment. The Observatory is part of the University of Denver's teaching facility, and it seems only right that Dr. Stencel and the University provide the best teaching facility that can be afforded. I would support any decision that he wants to make.

How many of us have an antique or classic car that we use to go to work in, or for that matter use in the performance of our job? Do you use an 8088 IBM, Amiga, or other early computers at home or work? How about the computer that your company may use for inventory or accounting? I'm quite sure that you use a power drill and not a brace and bit to drill holes while working on the job. There are probably many other comparisons that could be made with respect to using old, classic, or new equipment in the workplace. My point being that you or your company wants to use the most efficient method(s) to accomplish the project. I think the same would and should be true for any Astronomy Department.

Those who have alternative solutions to this sition should have these ideas or concepts outlined and presented to the E-Board at the April meeting. The current proposal by Dr. Stencel has some costs outlined and if any of the other concepts require additional costs, these should be noted and suggestions for raising the funds included. These ideas should

be voted on and presented to Dr. Stencel for his consideration. I don't think that the University can afford to wait too long if construction is to begin this year. Considering the time that it took the DAS to wade thru the processes for the Dark Sky Site, you know that they would like to get started as soon as possible with the paperwork.

WAYNE A. KAAZ

(Continued from page 2)

The plans for the track would eventually include overhead lighting, bleachers, and an announcers tower. The track builders say they are being supported by the American Bicycle Association and the Leukemia Society and can have the track built within a few days of getting approval. The first step would be to dump many yards of dirt on the site.

Members of the Astronomical Society approached both the City of Louisburg and the BMX track organizers requesting that they consider an alternative site where the lights and dust would not interfere with or damage the observatory. Although both the city and the track organizers initially were cordial and agreed that this might be a problem, they later came out in the local newspapers and on local TV saying they did not think the location would be a problem for the observatory and they planned to proceed with the site they had selected. They said they would turn the lights off by ten o'clock and only have the track open one night a week. There was no discussion of what effect the wind blown dirt would have on the optics and electronics in the observatory. We also know that the long range plans of the track organizers are to hold practices and large competitions at the track on other nights of the week from March through November.

Their next step is a presentation of the final drawings by the BMX track people to the Park Board on April 10. If the Park Board approves the plans then the City Council will vote on it. This could happen as soon as a week or two after April 10.

There is no question that this track site will spell the beginning of the end for Powell Observatory as a viable observing and research station. A minor planet observing program which began at the observatory in June 1999 resulted in sufficient observations and discoveries to rank Powell Observatory, IAUC Code 649, 51st in the world for 1999. They say the observatory is doomed anyway by local development. We have been very successful in get-

ting new developers to use shielded lighting so far and think this will continue. We feel that a responsible program with a local ordinance will allow the observatory to continue to operate indefinitely at the existing site. They do not appear to want to support that plan.

Many other possible sites do exist for the BMX track both inside the park and elsewhere in the local surrounding county. No one wants to consider an alternative site for some reason. They insist on placing this dirt track in the one location where it will cause the maximum possible negative effect on Powell Observatory. We cannot understand why they do not want to come up with an alternate site so both the observatory and the BMX track can coexist. It appears they want to get rid of the observatory. We do not know why.

Powell Observatory represents a \$300,000+ investment and would cost over \$200,000 to relocate. There is nowhere near enough money or time to relocate it. The only alternative would be closing it.

We would appreciate your letters and emails of support. We plan to have a petition drive and attend

all of the local meetings where this issue will be discussed and decided. Being able to read and supply copies your emails and letters of support to them and to the media may help us bring a stronger case to those making this important decision.

This is very important and the more support we get from around the world, the stronger we feel our case will be. Please help us. Please send this to others who may be able to help us. For every observatory that falls victim to this sort of thing, we all lose.....

Please address your emails and your letters to the "City of Louisburg, Kansas" and send them to me for printing and delivery to them at the upcoming city council meeting.

Larry Robinson
14680 W 144th Street
Olathe, Kansas 66062
lrobinsn@ix.netcom.com

50th Anniversary Group Portraits

Size	Standard	Archival
8 x10	\$10.70	\$11.10
12 x 15	\$15.99	\$16.48

Many have been asking about the portraits that were taken of the DAS as a group, and when they would be available. Well... they're available!

There were two portraits taken the day that we all gathered at Chamberlin. BOTH versions will be available. Samples of both versions will be at our meetings, as well as at S & S Optika.

Place Orders with Cathie Havens at S & S Optika; 303-789-1089 *by May 15*. Please state whether you want version 1 or 2, the size, and whether you want standard or archival. They will print by June 1st. This is a special ONE TIME pricing for DAS members. All prints will be printed in one batch. Prints after this run will be at normal retail prices.

the Woman Astronomer

The Woman Astronomer is about promoting astronomy; it's about the women role-models in astronomy, past and present; and, it's about the quickly changing science, and hobby, of astronomy.

The Woman Astronomer strives to spark interest in astronomy through profiles of the inspirational lives of women astronomers, professional and amateur. Feature articles on historical women astronomers and columns on modern women astronomers offer insight into the possibilities of our own lives.

The Woman Astronomer seeks to be a source of women role-models in astronomy, a publication that educates and motivates into the 21st Century.

<http://users.erols.com/njastro/twa/>

write to:

The Woman Astronomer

P.O. Box 27731

Denver, CO 80227-0731

email:

saturna@ix.netcom.com

or Phone:

(303) 988-3586

About the Denver Astronomical Society

The DAS is a group of amateur and professional astronomers sharing a mutual interest in the heavens. The DAS operates the University of Denver's Chamberlin Observatory with its venerable 1894, Alvan Clark, 20" refracting telescope. Our members have been involved with the first public planetarium at the Denver Museum of Natural History 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 to 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 Site Fund. This last fund was established to construct and maintain observing facilities sites near Deer Trail in eastern Colorado.

Please call our Info Line at (303) 871-5172 and drop by one of our General 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 () Renew

Name: _____
 Address: _____
 City: _____
 State: _____
 Zip: _____
 Home Phone : _____
 Work Phone: _____
 E-Mail: _____
 Occupation: _____
 Other Interests: _____
 (Associates Only) School: _____ Grade _____
 Do you want this information kept out of the yearly roster?
 Yes _____ No _____

Please Circle All That Apply:

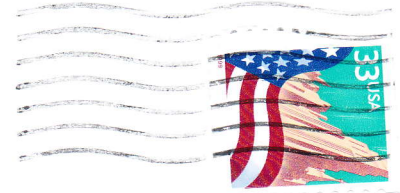
Regular - \$30 Associate - \$10 up to age 22

Sky & Telescope;/\$29.95 Astronomy/\$29 \$ _____
 Dark Site Fund Donation\$ _____
 VanNattan Scholarship Fund\$ _____
 Chamberlin Fund Donation\$ _____
 Total Amount Paid\$ _____

Complete this form, or a copy, and send it with a check or money order payable to The Denver Astronomical Society to: DAS Treasurer, Chuck Carlson, 1521 S. Vine St., Denver, CO 80210-2835



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1/1/2001
Bradley D Gilman
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