Saskatoon Skies

The Newsletter of the Saskatoon Centre

of the Royal Astronomical Society of Canada

Volume 31, Number 10

October 2000

Les Dickson's feature article describes several remote-controlled telescope sites available via the Internet. The site above is the 4-telescope Fairborn Robotic Observatory in Arizona.

RASC Calendar Happenings

Date (2000)	Event	Contact	Telephone
Oct. 16	**General Meeting - Room 8313**	Les Dickson	249-1091
Oct. 20	**Youth Group Meeting -Nutana - 7 p.m.**	Andrew Krochko	955-1543
Oct. 26-Nov 9	**Zodiacal Light season (evening sky)**	Rick Huziak	665-3392
Oct. 27 - 29	**Edmonton Centre's Astronomy Workshop - Skeleton Lake, Alberta**	Rick Huziak	665-3392
Nov. 3	**Youth Group Meeting -Nutana - 7 p.m.**	Andrew Krochko	955-1543
Nov. 4	**Sleaford Observatory Public Starnite**	Les Dickson	249-1091
Nov. 17	**Leonid Meteor (Storm?) Peak**	Rick Huziak	665-3392
Nov. 20	**General Meeting - Room 8313**	Les Dickson	249-1091
Dec. 1	**Youth Group Meeting -Nutana - 7 p.m.**	Andrew Krochko	955-1543

Sky Buys and Mirror Sells

The Saskatoon Centre's Swap and Sale Page!

For Sale: Excellent astronomy books for sale: *Skywatching* and *Advanced Skywatching*, by David Levy, *Nightwatch* by T. Dickenson, National Audubon Society *Field Guide to the Night Sky*; *the*

Pocket Guide to Astronomy **by I. Ridpath. All books are in excellent shape. Also for sale: brass lined trunk for SC-8 or SC-10. Call Darrell Chatfield for prices at 374-9278**

For Sale: Near new Meade 10" LX200 with accessories. Hardly used. Includes 2 power supplies, 3 eyepieces. carrying bag. $3000.00. Call Richard Allen at 652-1616.

Got any old .965" eypieces sitting in the closet unused for years now? Brent needs some for an old scope. Will pay $5 each or perhaps more for better quality ones. Contact Brent 241-8765 or <thunderb@home.com>

STILL NOT FOUND! - I misplaced or loaned out my Lumicon OIII filter to someone and I'd like it back. Please own up. This means YOU! - Darrell Chatfield 374-9278.

Saskatoon Centre

The Royal Astronomical Society of Canada

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Copy - Brian Friesen & WBM

Collate - Friesen, Christie, Dicksons, Ferguson, Essar & Krochko

IN THIS ISSUE

Astronomy on the Web - Robotic Scopes

by Les Dickson

In my last two articles, I took a look at Internet web sites that provided good information on astronomy and the space sciences. This month, I want to show you that the Internet is not only a useful tool to learn about astronomy, but that the Internet can also be used to do astronomy, by using robotic telescopes and remote access observatories.

What is a robotic telescope? A fully robotic telescope can decide when conditions are good enough, and make observations of the sky by itself. An astronomer does not need to be present nor waste time waiting for clear weather. The system's computer can move between programmed targets, and do so more quickly and more consistently than human operators. This makes automated observatories ideal for repetitive tasks that may require many nights per year. Also, robotic telescopes have proven very useful for observing transient events, notably the optical afterglow of gamma ray bursts detected by orbiting satellites. The telescope's computer systems usually connect to the rest of the world through the Internet and use the World Wide Web (WWW) as a user interface. Given that the system does not need to be attended by a human, except for maintenance, the observatory can be located at a remote location selected for the best seeing conditions rather than for the convenience of the users.

One of the largest installations of robotic telescopes, based on the number of instruments, is the Fairborn Observatory, located 6 km north of the Mexican border in Arizona. It has 8 instruments installed, with 4 more under construction. Most are used for photometry (measuring the brightness of stars); one is used for imaging, and another is used for spectrometry. The sizes range from 0.25m to 0.80m diameter, with a 2.0m spectroscopic instrument under construction. The instruments are operated by a number of different groups, including the University of Vienna, the University of Tennessee and two US colleges. It is best known for the first detection of an extra-solar planet transiting its star (HD 209458) in November 1999, based on observations taken by one of the 0.8 m photometric telescopes. The website is well organized and informative, and includes a gallery of images taken by the telescopes.

The University of Bradford operates a remote observatory situated on the Pennines in West Yorkshire, England. The telescope is a 46cm Newtonian reflector with an alt-azimuth mounting and a cooled CCD camera. Four PCs interface with the telescope and its instruments. From the observatory's website, users can read an on-line user guide about the telescope, find out technical details of the hardware and software, learn more about stars and galaxies, read weather reports, and control the telescope - all using the same interface.

The sites described above made use of telescopes of the 1m class. However, some sites use smaller telescopes or even just cameras. One good example of the latter is ROTSE: Robotic Optical Transient Search Experiment. It was designed and is operated by a collaboration of astrophysicists from the Los Alamos National Laboratory, Lawrence Livermore National Laboratory and the University of Michigan. ROTSE-I is an array of four electronic cameras mounted on a common equatorial platform. The cameras are made up of Canon 200 mm focal length, f/1.8, telephoto lenses in FD mounts, with Apogee Instruments AP-10 CCD cameras with Thomson 2048 x 2048 14 micron imagers. ROTSE-1 made the first optical observation of a gamma ray burst on January 23, 1999. The burst was first detected by the *Burst and Transient Source Experiment (BATSE),* a NASA instrument on board the orbiting Compton Gamma Ray Observatory. An alert was sent out over the Internet, and the ROTSE-1 was immediately pointed at the source. It was able to start observing the optical afterglow 22 seconds after it had begun. ROTSE is being expanded with the addition of ROTSE-2, a set of twin 0.45-meter aperture, f/1.9 telescopes to be operated in stereo mode.

While most robotic ’scopes are built and operated by professionals, amateurs can get into the act. An example is the Hanna City Robotic Observatory, operated by Jerry Gunn and Chuck Lamb of the Peoria Astronomical Society. The observatory uses an 8" LX-200 f/6.3 telescope equipped with an ST-7 CCD camera and SBIG CFW-8 Filter Wheel. The entire observatory, including all mechanical, electronic and optical components, is housed in a box approximately 1.3-m square and 1.5-m tall. A motor opens the lid of the box for observing. The website gives a great deal of detail on how the observatory was designed and built and shows just how much can be accomplished with relatively little resources. Perhaps our local University Physics Department should take note: Sleaford would make a good site for such a facility.

This has been a look a just a few sites on the Internet devoted to robotic astronomy and automated observatories. For further information, try the links page at the Bradford Observatory site, and search the Astroweb site for the term "robotic."

I will also be giving a short presentation at our October meeting on Robotic Telescopes, where I will be showing pictures of many of the instruments I have discussed in this article.

Websites:

* Fairborn Observatory: http://24.1.225.36/fairborn.html

* Bradford Observatory: http://www.telescope.org/rti/ (information);

http://www.telescope.org/ (instrument interface)

* ROTSE: http://www.umich.edu/~rotse/index.html

* Hanna City Robotic Observatory: http://www.mtco.com/~jgunn/#The Hanna City Robotic

* Robotic Telescope links page at the Bradford site: http://www.eia.brad.ac.uk/rti/automated.html

* Astroweb: http://simbad.u-strasbg.fr/cgi-bin/search-master?robotic

The Hanna City Robotic Observatory robotic telescope features an 8-inch Meade LX-200 equipped with an SBIG ST-7 CCD camera and filter wheel.

General Meeting and Elections for Open Positions on the Executive

by Les Dickson, President, Saskatoon Centre

The Annual General Meeting of the RASC Saskatoon Centre, and Elections for the Executive, is to be held October 16, at 7:30 p.m., in room 8313 at Saskatoon City Hospital. Please try to attend this meeting and cast your vote for the new Executive. All positions, with the exception of the President and Vice-President who were elected to 2-year terms last year, are open. An Executive position is open to any member in good standing. Positions are chosen by democratic vote by the membership in attendance at the General Meeting. Anyone can nominate anyone else (or themselves) for a position. Voting is done by a show of hands. In the event that you cannot attending the meeting, nomination by proxy will be gladly accepted. Contact a current member of the Executive. The following Executive positions are available:

Position	**Current**	**Nominated**
President	Les Dickson	Into 2nd year of term
Vice-president	Darrell Chatfield	Into 2nd year of term
Honorary President	vacant	appointed
Past-president	Erich Keser	appointed
Secretary	Al Hartridge	open
Treasurers	Jim and Barb Young	open
National Council Representative	Sandy Ferguson	open
Newsletter Editor	Richard Huziak	open
Librarians	Sandy Ferguson and Ellen Dickson	open
Councilors	Merlyn Melby, Scott Alexander, Ken Noesgaard	Mike Stephens (N)

Youth Coordinator	Sandy Ferguson	Andrew Krochko (N)
Observing Coordinator	Andrew Krochko	Ken Noesgaard (N)
Activities Coordinator	Brian Friesen	open
Membership Coordinator	Bob Christie	open
Fundraising Coordinator	Richard Huziak	open
Sleaford Building Coordinator	Darrell Chatfield	open
Sleaford Site Coordinator	Bill Hydomako	open
Publications/Sales Coordinator	Jean Dudley	open
SSSP Coordinators	Les Dickson and Dale Jeffery	open

(N) Nominated

In the past, if a particular job needed to be done, a position on the Executive was added. Such jobs could include: Media Coordinator, General Meeting Coordinator, Speakers Coordinator.

Please attend this meeting and exercise your right to vote!

Membership Fee Increases for 2000-2001

by Les Dickson, President, Saskatoon Centre

At the September General Meeting, the members present voted to approve a motion put forward by the Executive to increase membership fees starting October 1, 2000. The new fees are: Regular memberships, $48.00; Youth memberships, $26.00; separate Newsletter

subscriptions (without membership), $15.00. Members who recently renewed at the old rate will be asked to pay the additional $8.00. Our fee increase was prompted by a recent increase in fees charged by the National office of the RASC, which went from $36.00 to $40.00 per member.

While a 20% fee increase may seem a bit large, it is the first increase in fees charged by the Centre since 1993. Prior to that, we were charging $36.00 for a regular membership, only $1.00 above the National fee. However, in the last 7 years, an annual inflation rate of 1% to 2% has eroded our buying power by over 10%. We can no longer cover our expenses with only a $4.00 per member charge over and above the National fee: newsletter production and mailing charges per member already exceeds that amount. Our new $8.00 charge is in line with other Centres, which typically charge fees between $4.00 and $12.00 over the National fee.

I hope that these new fees do not discourage you from rejoining the Centre. Please remember that membership in the RASC gives you many benefits, including: *The Observer's Handbook*, *SkyNews* magazine, the *Journal of the RASC*, the *Saskatoon Skies Newsletter* , and discounts to *Sky and Telescope* magazine and *Sky Publishing* merchandise, along with access to the Sleaford Observatory, and the knowledge and experience of many helpful amateur astronomers. We look forward to your participation in the coming year, and to your comments and suggestions as to what we can do to be more efficient and cost-effective in the delivery of the benefits of membership in the RASC to you.

The SLEAFORD ASTRONOMICAL OBSERVATORY

PUBLIC OPEN HOUSE - NOVEMBER 4, 2000

by Stan Shadick (Dept. of Physics and Engineering Physics) & Rick Huziak (RASC)

The public is invited to an open house at the Sleaford Astronomical Observatory on Saturday, November 4th. A car convoy to the observatory will depart at 7:00 p.m. from parking lot R on the University of Saskatchewan campus. This parking lot is located near the Physical Education building.

The U of S Observatory consists of a metal building enclosing 4 telescopes. The roof of the building slides off the structure to allow the telescopes to view the heavens. The observing facility is used by university students who are registered in astronomy courses that are part of the Astronomy Minor Program offered by the Department of Physics and Engineering Physics. Students use the telescopes for visual observation of astronomical objects. They also use a photometer, spectrometer and CCD camera attached to the

telescopes for conducting scientific studies into the physical properties of stars. The RASC will also have telescopes on hand for public viewing as well as a display regarding the Sleaford Observatory Project.

The Sleaford Astronomical Observatory is located about 65 km east of Saskatoon and is jointly operated by the University of Saskatchewan and the Royal Astronomical Society of Canada. The remote observatory location is needed to prevent city light pollution from hampering observations of the heavens. It is located at the site of the former Sleaford rural school.

For further information, phone 966-6429 or 966-6396.

You are invited to an

OPEN HOUSE

at

Sleaford Observatory

Located at the site of the former Sleaford School

SATURDAY

NOV. 4, 2000

8 PM to 10 PM

Come meet us regardless of weather

*** Tour the new University of Saskatchewan observatory**

*** Look at the RASC's observing facilities**

*** Try a bit of stargazing through our telescopes, if clear**

Sponsored by:

University of Saskatchewan Royal Astronomical Society of Canada

Department of Physics & Engineering Physics Saskatoon Centre

Contact: Stan Shadick Contact: Les Dickson

966-6434 249-1091

HOW TO CLEAN MIRRORS AND LENSES

by Lenny Abbey (from the AAVSO Discussion List)

The cleaning of optical surfaces, especially those of first-surface mirrors, is the most delicate and exacting task that the astronomer is called upon to perform. At the time of cleaning, a lens is most vulnerable to damage; damage which cannot be repaired. Yet if a telescope is to perform at its greatest potential, cleaning must be done time to time.

I have used the following method for over twenty-five years without adding a single scratch to the surface of my mirrors and lenses. It has the advantage of requiring only materials that are readily available at the neighborhood pharmacy or grocery store. The cost is less than twenty-five cents per cleaning.

First you must realize that usually the best advice on cleaning mirrors and lenses is...DON'T DO IT. Dirt and grease that are adhering to the surface of mirrors and lenses may degrade image quality, but they will not damage the delicate optical surface until they are moved against it. Removing dirt without allowing it to rub against the underlying optical surface is what makes cleaning such a tricky task. If your mirrors and lenses are so dirty that they must be cleaned, then this is the way to do it:

FOR MIRRORS

1. Blow all loose dirt off with "Dust Off" or another canned clean air product (available in camera stores). Take care not to shake the can while you are using it, and be sure to release a little air before using it on the optical surface. This will assure that no liquid is dispensed to make things worse! You can use a rubber bulb for this purpose, but it is not nearly as effective.

2. Prepare a VERY dilute solution of mild liquid detergent (e.g., Dawn). Use about 2 - 4 drops per liter (quart).

3. Rinse the mirror off under a moderate stream of lukewarm water for two or three minutes. Test the temperature of the water with your wrist, just as you would when warming a baby's bottle.

4. Make a number of cotton balls from a newly opened package of Johnson & Johnson sterile surgical cotton, U.S.P. Soak 2 or 3 balls in the detergent solution. Wipe the surface of the wet mirror with a circular motion, going first around the circumference, and then working your way towards the center. The only pressure on the cotton should be its own weight. For this first "wipe" you should use several fresh sets of cotton balls.

5. Throw cotton balls away.

6. Repeat process with new cotton balls, using a LITTLE more pressure.

7. Rinse mirror thoroughly under tap, which has been kept running for this step.

8. Rinse mirror with copious amounts of distilled water. (Do this no matter how clean or "hard" your tap water is).

9. Set mirror on edge to dry, using paper towels to absorb the water which will all run to bottom of mirror. Keep replacing the paper towels as the mirror dries.

10. If any beads of water do not run to bottom, blow them off with Dust Off, or the rubber bulb.

11. Replace the mirror in its cell, being careful to keep all clips and supports so loose that the mirror can rattle in the cell if it is shook. (Perhaps .5 to l mm clearance).

12. Spend the next month realigning your scope.

13. If you do anything more than this, you will damage the coating, and maybe the glass.

14. You should not have to clean an aluminized mirror more often than once per year. Do NOT over clean your optics.

FOR OBJECTIVE LENSES

DO NOT UNDER ANY CIRCUMSTANCES REMOVE A LENS FROM ITS CELL, OR THE CELL FROM THE TELESCOPE.

This restriction means that the above procedure must be modified. Only the front surface can be cleaned. If you remove the cell from the telescope, you will be in big trouble. There are probably not more than 25 people in the United States who can effectively collimate a refractor!

1. Blow loose dirt off with Dust-Off or a rubber bulb, using the above precautions.

2. Soak the cotton balls in a 50:50 solution of Windex (commercial glass cleaner containing ammonia) and water. Squeeze slightly so that the balls are not dripping wet.

3. Wipe front lens surfaces with the wet cotton, using only the pressure of the weight of the cotton balls. Follow immediately with dry cotton, using little or no pressure.

4. Repeat procedure, using slightly more pressure.

5. If some cotton lint remains on surface, blow off with Dust-Off or rubber bulb.

6. Repeat procedure if lens is not clean, but if one repeat does not do it give up and leave it as is.

7. Inspect lens to make sure that no cleaning solution has found its way into the lens cell, or between the elements. If this has happened, leave the telescope with the lens uncovered in a warm room until it is dry.

FOR EYEPIECES AND BARLOWS

Follow the procedure given for objective lenses, but use Q-Tips (cotton on plastic sticks) instead of cotton balls. You may, of course, clean both surfaces. The eyebrow juice on the eye lens of eyepieces may require repeated applications. I think that this is OK in this case.

SOME DONT'S

1. Do not use any aerosol spray product, no matter who sells it, or what their claims are.

2. Do not use lens tissue or paper. It DOES scratch.

3. Do not use pre-packaged cotton balls, they frequently are not cotton.

4. Do not use any kind of alcohol, especially on aluminized surfaces.

5. Do not use plain water.

6. Do not use any lens cleaning solution marketed by funny companies, like Focal, Jason, or Swift. Dawn and Windex (or their equivalents in other countries) are cheap and commonly available.

Brightwater Camp's 10th Anniversary Celebration

By Rick Huziak

On October 5th I had the pleasure of participating in the Brightwater Camp's 10th Anniversary Celebration as a facility used by the Saskatoon Public School Board for school camp outings. Throughout the fall, winter and spring, grades 4 through 7 classes have 2 ½ day outings to study the nature of the camp area and Beaver Creek, which runs through the grounds. The anniversary event was organized by Louise Jones, the School Coordinator for Brightwater. The celebration consisted of *a Teacher's Workshop on Beginning Astronomy*, the unveiling of a new 10-inch f/5.6 Newtonian telescope for Brightwater, a campfire, a birthday cake and a sing-a-long!

I gave the Teacher's Workshop, based on a rearrangement of a slideshow that I usually give to the kids. The workshop also included tips on maintenance of the new telescope and what good books and resources were available for the students. It's hard to believe that the RASC has been giving presentations at Brightwater for eight of those ten years!

The new telescope was built by past member and Brightwater Camp caretaker Gilbert Smith, from funds provided by Louise and advice provided by myself. Gilbert did a smash-up job on the scope - a job to be proud of. The scope includes a quality 8x50 erect spotter and 3 Plossl eyepieces. This telescope will be available for use by teachers and astronomy presenters, thus it provides an extra scope to use if we cannot bring our own, or a true extra scope when those 56-student classes show up! Along to help was Mike

Stephens - though the observing part of the workshop was clouded out. Also in attendance was Saskatoon RASC Past-president Halyna Turley - now a Public School administrator. About 25 teachers and administrative staff attended the workshop.

Brightwater Camp provides the RASC with an opportunity to spread the excitement of astronomy to school kids, their teachers and their parents. Some of our membership originated from parents whose first exposure to astronomy was through as camp talk! It also provides us with an opportunity to do some fund raising since talks at the camp are generally accompanied by honoraria. Throughout the school year, we can receive up to 40 requests to speak at Brightwater. These requests are generally covered by myself and Sandy Ferguson. Additional speakers are needed, though, so if you can help out with the occasional talk or help ?person' the occasional telescope??.! Let's talk!

Cloud Cover Forecasting for Astronomers

from Alister Ling & Russ Sampson, Edmonton Centre, <watcher@freenet.edmonton.ab.ca>
(edited from the RASCLIST)

(Russ) "I'm writing a JRASC news notes item on the Canadian Meteorological Centre's (CMC) new "Clouds forecast for astronomical purposes" web site. It was developed by long-time amateur astronomer and CMC meteorologist?."

(Alister) "At the weather office, we've been referring to these for over a year. It's great to have them on a public site now. They're pretty damn good, and WAY better than the public forecast.

< http://www.cmc.ec.gc.ca/cmc/htmls/astro_e.html >

A word or two of caution... it's still a forecast, no matter how good it appears. If critical data did not get into the computer model, then the forecast is going to suffer.

If you are thinking about a short-term excursion, make sure you check an actual satellite image, and the associated loop (links on our Centre homepage).

It will be interesting to see how it handles low cloud in winter, the type we had for the November transit of Mercury. In that case, the numerical cloud model basically forecast the entire prairies to be free of cloud. This is why you need to check satellite images.

You are encouraged to try it on those cloudy nights, to see how the forecast matches the actual conditions. It is most interesting to see the results for 24-48 hours in advance; you'd have to save the image and wait for reality to catch up. Have fun!"

Notice of the General Meeting of the Saskatoon Centre

Monday, October 16, 2000 at 7:30 p.m.

Room 8313 City Hospital

Presenting

Les Dickson - ***"Robotic Telescopes on the Internet"***

Annual Executive Elections

The Sleaford Observatory Page

Longitude: ***105 deg 55' 13" +/- 13" W Latitude: 52 deg 05' 04" +/- 08" N, tel.: (306) 255-2045***

by Rick Huziak

Omission: In the last issue, I inadvertently left out Les Dickson from the last work session. Sorry about that Les! When you make lists, these things occur. I hope that everyone who has worked at the observatory realizes that your contributions are very much appreciated, whether you are mentioned or not! The amount of work done toward completion of this year's construction goal is overwhelming. We have got a lot of the planned work accomplished, but as always, there is more to do.

Recent Work at the Site: There has been a slow-down of work at the site due to other commitments (ie. school has started and the kids need to be driven around more). However, since the last issue of Saskatoon Skies, the decks have been re-stained and the doors and doorframes have been painted. More of the perpetual wiring inside of the Warm-up Shelter has been done. Some site cleanup has been done as well.

And Now the Good News: Good news is that many of the tasks are really only a day or two from being completed. The toilet is almost ready with only a day of wood trim to put up. We have been in contact with Stan Shadick and are now planning the *User Procedure* for the toilet. It will not be as simple as *dumping with no worries*! There will be an "each-time" maintenance to do, and the inevitable question of who cleans up "*poor aim*". So we are encouraging boys to sit down, or better yet - continue using the outhouse unless there are **dire emergencies**! We will also have to contend with the inability to store liquid cleaners at the site over the winter (without risk of freezing), since even the toilet will not be heated 100% of the time. Also, a **Manual for Use of the Sleaford Observatory** will need to be written to aid in training of new users, since there have been a lot of changes in breakers, heaters, wiring, dome use, etc. Stay tuned.

Interested in

Saskatoon RASC

Membership?

Regular - $48.00 per year

Youth - $26.00 per year

It's never too late to join!

If you do not want to join at this time, ask to get onto our FREE 3-month Temporary Membership list. You will receive regular mailings of our Saskatoon Skies newsletter and will be invited to participate in Centre activities. Members are encouraged to renew early to avoid disruption in publications.

Benefits of Membership in the Saskatoon Centre

Past-members and temporary members are encouraged to join or rejoin the Centre as soon as possible in order not to loose out on any benefits of membership, which include:

-
- knowledgeable & friendly amateur astronomers
- use of the Sleaford Observatory
- use of the U of S Observatory (after training)
- Saskatoon Skies Newsletter
- Observer's Handbook 2001
- The Journal of the RASC (bi-monthly)
- SkyNews Magazine (bi-monthly)
- use of the Centre library
- discounts to Sky & Telescope Magazine
- discounts of Sky Publishing merchandise
- discounts to Firefly Books

U of S Observatory Hours

The U of S Observatory is open to the general public every Saturday from October through February from 7:30 p.m. to 9:30 pm.. Admission if free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear evenings visitors may look through the 6-inch refractor to the moon, star clusters, Jupiter, Saturn and other exciting astronomical objects. For further information, phone the recorded Astronomy Information Line at 966-6429.

Messier, FNGC, H-400 & Binoc Club

MESSIER CLUB

Certified at 110 Objects: R. Huziak, G. Sarty, S. Alexander, S. Ferguson, D. Jeffrey, D. Chatfield, R. Christie, K. Noesgaard

Wade Selvig 71

Mike Stephens 55

Erich Keser 51

Andrew Krochko 42

Brent Gratias 39

Stan Noble 28

Mike Oosterlaken 28

Lorne Jensen 25

Ellen Kaye-Cheveldayoff 23

Les & Ellen Dickson 20

Debbie Anderson 17

Brian Friesen 15

FINEST NGC CLUB

Certified at 110 Objects: R. Huziak, D. Jeffrey , G. Sarty, D. Chatfield

Scott Alexander 89

Ken Noesgaard 24

Sandy Ferguson 23

Ellen Kaye-Cheveldayoff 17

Mike Stephens 3

Mike Oosterlaken 1

HERSCHEL 400 CLUB

Certified at 400 Objects:

Dale Jeffrey *WOW- COMPLETED* 400

Rick Huziak 352

Darrell Chatfield 285

Gord Sarty 147

Scott Alexander 98

Ken Noesgaard 44

Sandy Ferguson 18

Mike Oosterlaken 7

Chatfield BINOCULAR CERTIFICATE

Mike Stephens 34

Join the Messier, Finest NGC, H-400 & Binocular Club!

Observe all 110 Messier, 100 FNGC or 400 H-400, or 80 Binocular objects and earn your

CERTIFICATES!

The first 2 lists can be found in ***the Observer's Handbook***. The Binocular List & Herschel 400 list will be available at each general meeting for 50 cents (covers photocopying) or **can be mailed out on request to distant members.** Each month I'll be posting updates.

Herschel List News

Questions regarding certification for the Hershel 400 list continues, so Darrell Chatfield contacted the H-400 Club in Florida, and we may end up with a Saskatoon Certification group! Stay tuned. Also, Darrell found out that some of us are using the WRONG Herschel 400 list! The one that I've been handing out is from a Norwegian site where they replaced a number of southern objects with ones available from northern latitudes. Thus we will all have to recheck our numbers to the OFFICIAL list! Bummer! Coincidentally, Dale was one of few using the official list, so he is still complete!

I would also like to welcome Mike Oosterlaken to all 3 Lists and would like to congratulate Debbie Anderson on more than doubling her Messier count at SSSP this year! Way to go, Deb!

Observing #s-report to <huziak@SEDSystems.ca>

Minutes of the EXECUTIVE MEETING

Sept. 18, 2000

City Hospital, Room 8313

recorded by Darrell Chatfield

1. Last meetings minutes approved by Rick H.
1. The agenda was approved by Rick H., seconded by Darrell C.
1. Financial report was given by Barb Y.

- Bank balance - $11,136.08
- Telescope Fund - $2,219.53
- tentatively SSSP Fund - $1,872.00
- Sleaford Fund - $5,264.00

1. Les suggested we reserve a fund to operate Sleaford in the fall of 2000.
1. Les had a copy of the National Office Report, and how they were in debt. This was to justify raising the National membership to $40.00 for adults, $25 for youth. A figure of $50.00 was suggested. Darrell C. suggested $48.00. Moved by Les D. Youth would move to $26.00, and a fee of $15.00 would be charged to those who only get the centers newsletter. Rick H. suggested an article in the newsletter that would explain the increase in membership fees.
1. Andrew Krochko will not stand for Observing Coordinator this coming year.
1. Rick talked about mailing out our newsletter electronically, and about buying the *Adobe Acrobat* program.

1. Fundraising was mentioned. We could have another major raffle, but we need someone to coordinate this.
1. Rick H. has started an assets list that the Centre has.
1. Darrell C. has started a key list.
1. Darrell C. gave his recommendations for improvement for the next SSSP.

Minutes of the General Meeting

Sept. 18, 2000

City Hospital, Room 8313

recorded by Al Hartridge

1. City Hospital Meeting Room: we will only be able to book this room one month in advance. Thus we could be without a meeting room at times.
1. Membership Fees: the RASC fees have unchanged for many years. National has voted to increase fees. We will have to raise our rates as well. Adult membership will go from $40.00 to $48.00 and youth from $22.50 to $26.00. Subscriptions to the newsletter will go to $15.00. This will come into effect on Oct.1,2000. A motion to adopt these changes was made by Les Dickson, seconded by Jim Young and carried.
1. The annual general meeting with vote for the executive will take place next month. We need new blood !!!
1. Sleaford Open House: Will be held Nov.4th. Stan needs volunteers from the Saskatoon Centre to come out with scopes and also to help with crowd control, etc. He would also like us to set up the Sleaford display.
1. Books: Debbie says that Jean will be putting in a book order soon and anybody that wants a specific book should let her know. She will be ordering from Sky Publishing and Firefly.
1. Meeting adjourned at 9:35 p.m.