

# Saskatoon Skies

The Newsletter of the Saskatoon Centre of the Royal Astronomical Society of Canada

Vol. 40, No. 12

December 2009

## Astronomy at the Mall



Barb Wright and Christine Kulyk enjoyed meeting dozens of starry-eyed youngsters on International Children's Day in November at Market Mall. Budding astronomers and their parents or grandparents were delighted with all the kid-friendly materials at the Saskatoon Centre's display table.

*Photo by Patricia Gakis*



Saskatoon Centre

The Royal Astronomical Society of Canada  
P.O. Box 317, RPO University  
Saskatoon, SK S7N 4J8

WEBSITE:

<http://www.rasc.ca/saskatoon>

E-MAIL: [wrightb@sasktel.net](mailto:wrightb@sasktel.net)

TELEPHONE: (306) 249-1990

### In This Issue:

Membership Information: Bottle Drive: Officers of the Centre	2
U of S Observatory Hours: Light Pollution Abatement Website	2
Calendar of Events: Meeting Announcement	3
December Program -- Christmas Potluck Supper	3
IYA Observing Challenge – Norma Jensen	3
Minutes of the General and Executive Meetings	4
President's Message – Barb Wright	5
International Year of Astronomy Windup – Patricia Gakis	5
Sky Buys & Mirror Cells	5
RASC Saskatoon Centre Financial Report	6
What Was Your Earliest "Galileo Moment"?	7
Books for Sale	7
The Planets This Month – Murray Paulson	9
The Messier, H-400 & H-400-II, FNGC, Bino, Lunar & EtU Club	10
Observers Group Notes – Larry Scott	10
To view <i>Saskatoon Skies</i> in colour, see our Website: <a href="http://homepage.usask.ca/~ges125/rasc/newsletters.html">http://homepage.usask.ca/~ges125/rasc/newsletters.html</a>	

# MEMBERSHIP? IT'S NEVER TOO LATE TO JOIN!

**Regular: \$77.00 /year**

**Youth: \$41.00 /year**

**Associate: \$33 /year**

The Saskatoon Centre operates on a one-year revolving membership. You will be a member for the next 12 months no matter when in the year you 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. Renew through the membership coordinator, Mark de Jong, or renew through the National Office and let Mark know that you did!

## Benefits of Membership in the Saskatoon Centre

- knowledgeable & friendly amateur astronomers
- use of the Sleaford Observatory
- use of the U of S Observatory (after training)
- Saskatoon Skies Newsletter
- Observer's Handbook
- The Journal of the RASC (electronic format)
- SkyNews Magazine (bimonthly)
- use of the Centre library
- rent the Centre's Telescopes  
<http://homepage.usask.ca/ges125/rasc/telescopes.html>
- discounts to Sky & Telescope Magazine\*
- free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

\*New subscription or renewal of Sky & Telescope? Send new info or renewal notice, plus credit card # to Norma Jensen, 128 – 4th Street East, Saskatoon, SK S7H 1H8, or email her at [norj@sasktel.net](mailto:norj@sasktel.net) .

## U OF S OBSERVATORY

The U of S Observatory is open to the general public every Saturday of the year. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear nights, visitors may look through the vintage 6-inch and tour several displays. Current events are recorded on the Astronomy Information Line at 966-6429.

### Observatory Hours:

January-February	7:30-9:30 pm
March	8:30-10:30 pm
April	9:30-11:30 pm
May-July	10:00-11:30 pm
August	9:30-11:30 pm
September	8:30-10:30 pm
October-December	7:30-9:30 pm

## SASKATOON CENTRE'S MAIN OFFICERS:

**President** – Barb Wright, 249-1990  
**Secretary** – Ron Waldron, 382-9428  
**Vice-President** – Jeff Swick, 373-3902  
**Treasurer** – Norma Jensen, 244-7360

## Bottle Drive & Canadian Tire \$

By Darrell Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 374-9278.

**Newsletter Editors** – Christine Kulyk & Tenho Tuomi

**Copy & Collate** – Les & Ellen Dickson

**Labels & Temps** – Mark de Jong

**Web Posting** – Gord Sarty

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 100 copies per issue. Saskatoon Skies welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science material. **Articles can be sent by mail in any format to the Centre's mailbox.** Submitted materials can be returned upon request. Submissions may also be sent by e-mail to the editor at [clkulyk@sasktel.net](mailto:clkulyk@sasktel.net) – preferred as plain unformatted ASCII text files without line breaks. Images sent by e-mail should be attached files.

A separate by-mail subscription to Saskatoon Skies is available for \$15.00 per year. Saskatoon Skies is also posted on our Saskatoon Centre homepage as a .pdf file and can be downloaded free-of-charge. Members may choose to receive the newsletter by regular mail or via the Internet. Articles may be reprinted from Saskatoon Skies without expressed permission (unless otherwise indicated), provided that proper source credit is given. DEADLINE for submissions for each month's issue is the 20th of the preceding month. Saskatoon Skies accepts Commercial advertising. Please call the editor 306-858-2453 for rates. Members can advertise non-commercial items free of charge.

**LIGHT POLLUTION  
ABATEMENT  
WEBSITE AT:**  
[www.rass.sk.ca/lpc/lpc.htm](http://www.rass.sk.ca/lpc/lpc.htm)

## RASC CALENDAR OF EVENTS

<b>Dec 11</b>	<b>Observers Group</b> – 7:30 pm, Sleaford Observatory	Larry Scott	934-5801
<b>Dec 13-14</b>	<b>Geminid Meteor Shower</b> - Sleaford Observatory	Larry Scott	934-5801
<b>Dec 14</b>	<b>Christmas Potluck Social</b> - 6:00 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Jan 9</b>	<b>Observers Group</b> – 7:30 pm, Sleaford Observatory	Larry Scott	934-5801
<b>Jan 18</b>	<b>RASC Executive Meeting</b> - 6:30 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Jan 18</b>	<b>RASC General Meeting</b> - 7:30 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Feb 6</b>	<b>Observers Group</b> – Dusk, Sleaford Observatory	Larry Scott	934-5801

**MONDAY, DECEMBER 14, 6:00 PM**

### RASC Saskatoon Centre's Christmas Potluck Supper & 40th Anniversary Celebration



**Bring the Family!  
(See below for further details.)**

## December Program:

Our December gathering this year doubles as a celebration of the Saskatoon Centre's 40th Anniversary, as well as our annual Christmas Potluck Social. Your family is very welcome to attend. The dinner will be held on December 14 in the same room where we usually meet (see above), but beginning at 6:00 pm. Bring a favourite dish to share. Paper plates, cutlery, tea, coffee, and soft drinks will be provided.

As a special feature this year, a short program will be presented for your enjoyment: Bernice Friesen will give a brief reading from a novel she is currently writing. Its working title (perhaps predictably, says Bernice) is *Dark Matter*.

## IYA Observing Challenge

*by Norma Jensen*

At the beginning of the International Year of Astronomy, Saskatoon Centre challenged members to spend more time observing. People could follow special projects or begin or add to searches of interest such as the Messiers or the Explore the Universe program.

We now ask you to turn in the results of your time well-wasted under the night sky, if you haven't done so already. Send your updates to Co-Editor Christine Kulyk ([clkulyk@sasktel.net](mailto:clkulyk@sasktel.net); 306-374-0811). Please provide a summarized list of your observing project or information on the area you have been exploring. Deadline for a chance at a special IYA Observers' Prize is December 31, 2009.

## Minutes of the Executive Meeting, November 16, 2009 by Ron Waldron

1. Meeting called to order at 6:30 pm.
2. Approval of the minutes of the previous meeting: Moved by Les Dickson, seconded by Rick Huziak, and carried.
3. Treasurer's Report (Norma Jensen): The Financial Statement and SSSP report for the year were distributed. Our net surplus was \$5,969.89 as of September 30, 2009. Total assets as of September 30 were \$56,339.60. Discussion followed.
4. National Rep's Report (Rick Huziak): Laser pointers are being discussed by the RASC, as there have been incidents involving airplanes. The RASC is working on a set of guidelines for its members. We will get a one-time payout from the National Office for our Life Members. Jim Gorkoff mentioned that he is working with National Office on their definition of Family Memberships.
5. Discussed plans for the Children's Day display and stargazing to be held at Market Mall on Friday, November 20.
6. Barb Wright presented her thinking on an Education program for new members. Discussion followed as to when this would take place and who would do it. It was decided to ask the new members if they would attend special sessions designed just for them.
7. Barb Wright asked about our insurance policy. Jim Gorkoff responded that he is working with a small group of people to put in writing to the insurer what it is that we want. He does not anticipate any difficulties in getting what we are asking for.
8. Meeting adjourned at 7:04 pm.

## Minutes of the General Meeting, November 16, 2009 by Ron Waldron

1. Meeting called to order at 7:30 pm.
2. Approval of the minutes of the previous meeting: Moved by Gord Sarty, seconded by Ellen Dickson, and carried.
3. Treasurer's Report (Norma Jensen): See Executive Meeting minutes. Motion to approve by Mike Clancy, seconded by Jim Young, and carried. Motion to waive an audit for this year: Moved by Jim Gorkoff, seconded by Mike Clancy, and carried.
4. Committee Reports:
  - National Rep's Report (Rick Huziak): See Executive Meeting minutes.
  - Events Coordinator (Patricia Gakis): She thanked everyone for coming out to the Sleaford Open House. Discussed plans for the Children's Day and stargazing to be held at Market Mall on Friday, November 20. A display will be set up for most of the day at the mall.
  - Site Coordinator (Darrell Chatfield): Re-presented the idea of a garage package to replace the schoolhouse for meetings and assemblies and storage. He mentioned that we are at risk of being taxed on our money if we do not have plans in place to spend it. We should make sure that we have plans in place in the near future to avoid this possibility.
  - Light Abatement (Rick Huziak): Yorkton's casino has turned off its lights during migration season to avoid the problems that occurred with birds when it initially opened. There will be another challenge to the Environmental Protection Act to try and get Light Abatement legislation included in the act.
  - SSSP (Barb Wright): Indicated that the committee needs new people to avoid "burnout" by the veteran members. She asked that members think about getting

involved. The areas include Meadows Coordinator (formerly done by Mike Clancy) and others.

- New Members Program (Barb Wright): (See discussion in Executive Meeting minutes.) She asked the question What is it that new members would like? Several new members were present and responded that a "buddy" system would work well. Several veteran members responded that had worked well for them too. Another suggestion was making classes available once a month at the Observatory — using the classroom and following up with viewing through the telescope.
- Sleaford Committee (Les Dickson): Presented plans discussed at a recent committee meeting including Darrell Chatfield, Rick Huziak, Garry Stone, Jeff Swick, and Barb Wright. Short, medium, and long-term goals were presented along with target dates. Les asked for approval of these goals and reminded us that all goals will involve the spending of money. Short-term goals require no approval by the university and were targeted for completion by October 2010, and medium-term (requiring coordination with the U of S) by June 2010. Long-term goals were explained as multipurpose building, observatories, etc. and had no deadline date for completion. Finally, he asked members for their input on these plans by January 2010, when the short-term plans will likely be voted upon.
5. Presentations:
  - Gord Sarty presented an update on his activities and analysis of data from the MOST telescope.
  - Mel Stauffer: "What's the Buzz on Buzzard Coulee?"
6. Meeting adjourned at approximately 10:00 pm.

## President's Message

by Barb Wright

At our November meeting, the Sleaford Site Committee presented some of their ideas for development of the site. We would like members' input and ideas for what you would like to see at Sleaford: a "wish list" for future development at our observatory site. Please forward your ideas to: Les Dickson (dicksonl@sasktel.net), Darrell Chatfield (novachat@sasktel.net), and Rick Huziak (huziak@sedsystems.ca). Please cc to all three so they have the same info, and please try to do so by the end of this year so your ideas can be considered. If you were a member during Ron Waldron's presidency, you may remember the exercise he led to define our goals for the Saskatoon Centre. Think of the future of Sleaford in your response.

As Chair of the Saskatchewan Summer Star Party (SSSP) Committee, I wish to let all our members know that we are greatly in need of new energy for the planning committee for SSSP 2010. Guidelines are fairly well set out for what needs doing, and the park and hotel are both cooperative and enthusiastic to have us there and help make the weekend successful. But current members of our volunteer organizing committee have been doing this practically from the first SSSP and are in grave danger of burnout. We are not dropping out, we simply want another person or two to join in the fun! Talk to me (Barb Wright, 249-1990) for further details.

## International Year of Astronomy Windup

by Patricia Gakis

Our Centre's last official public IYA event was on Friday, November 20, at the International Children's Day fair in Market Mall. Over the course of the year, we've definitely proved that this city loves astronomy.

October is usually the month for our annual Open House at the Sleaford Observatory. But this year, in honour of IYA, we not only pushed the date to correspond with the IYA project Galilean Nights but we also extended the one-night event to two nights. Mother Nature was not on our side, as we were clouded out on both nights. But that did not stop the crowds. We had over 100 people come out that weekend to tour the observatory and learn more about astronomy and light pollution.

November 20 was designated Universal Children's Day by the United Nations. Market Mall in Saskatoon decided to celebrate by showcasing a variety of local groups and talent, and we were fortunate enough to be invited. In less than 8 hours, we had about 140 visitors to our table who were excited to learn more about astronomy. Kids had the opportunity to take home little projects and to get a look at some Christmas lights in a Celestron FirstScope! Unfortunately, the public observing session we had planned for a nearby

park was clouded out, but overall, the event was a great success.

IYA may be nearly over for us here, but looking back on everything we've done, it was a wonderful year. We have had a lot of fun showing off the heavens to our fellow Saskatonians, and I personally am looking forward to continuing this momentum of teaching everyone about astronomy in the coming years!

### SKY BUYS & MIRROR CELLS

*The Saskatoon Centre's Swap and Sale Page*

5" Astroscan telescope. Red exterior. Good condition.  
8" Celestron Celestar Deluxe S/C telescope. Includes many extras and upgraded items, such as finder, W/O diagonal, Feathertouch focuser, Telrad, Bob's Knobs, Dry Eye dew heater system, padded main scope case, and tripod bag. This scope has great optics, as attested to by a former Celestron employee at a previous SSSP. This scope has seen me through 3 certificates, and will track for hours on end. If you want a great scope, then please consider this one. Over \$3,300 invested. Asking \$1,700. Will consider offers. Please contact Darrell (306-374-9278; [novachat@sasktel.net](mailto:novachat@sasktel.net)).

# RASC Saskatoon Centre Financial Report

## October 1, 2008, to September 30, 2009

by Norma Jensen, Treasurer

	<b>Current Year</b> 2008-09	<b>Previous Year</b> 2007-08
<b>Revenue</b>		
Membership fees	\$ 2,249.24	\$ 2,015.19
Retail Sales	1,048.33	1,761.42
Donations	3,768.53	-
Fundraising		
Star Party	30,722.07	15,203.96
Dinners, Raffles, etc.	-	780.56
Advertising	450.00	115.00
Interest	550.60	482.73
<b>Total Revenue for the Year</b>	<u>\$ 38,788.77</u>	<u>\$ 20,358.86</u>
<b>Expenses</b>		
Public Education	\$ 1,864.90	\$ 267.93
Taxes & Licences	10.00	10.00
Star Party	26,443.25	9,016.93
Insurance	1,084.00	1,099.96
Repairs & Maintenance	366.22	31.99
Office Supplies & Postage; Newsletter	1,484.32	827.37
Retail Sales	741.65	991.99
Depreciation	824.54	850.40
Miscellaneous	-	657.56
Fundraising	-	84.81
<b>Total Expenses for the Year</b>	<u>\$ 32,818.88</u>	<u>\$ 13,838.94</u>
<b>Net Surplus for the Year</b>	<u>\$ 5,969.89</u>	<u>\$ 6,519.92</u>
<b>Assets</b>		
Cash	\$ 8,975.85	\$ 12,179.03
Term Deposits	29,312.34	19,771.91
Raffle Fund	313.80	313.62
Fixed Assets		
Equipment	15,666.26	16,157.66
Retail Inventory	2,071.35	2,214.00
<b>Total Assets</b>	<u>\$ 56,339.60</u>	<u>\$ 50,636.27</u>
<b>Liabilities</b>		
GA donation deferred revenue	-	\$ 266.56
Balance Forward	\$ 50,369.71	
Current Year Surplus	<u>5,969.89</u>	
<b>Balance at End of Year</b>	<u>\$ 56,339.60</u>	<u>\$ 50,636.27</u>

# What Was Your Earliest “Galileo Moment”?

**Larry Scott:** I grew up on a farm, and the beautiful sky was always there. I’m unable to recall the name of the book I read as a boy on that farm, but it was about the discovery of the outer planets. It was a fascinating story (most of which I have forgotten) that made me look at that sky and wonder what else might be out there. So I had my Galileo moment reading a book.

**Christine Kulyk:** Several things combined to spark my interest in astronomy, beginning when I was a teenager. The Gemini and Apollo space missions (leading up to the first Moon landing), science fiction movies like *Forbidden Planet* and *2001: A Space Odyssey*, books with astro-illustrations by Chesley Bonestell, and reading *Frontiers of Astronomy* and *The Black Cloud* (both by Fred Hoyle). Numerous visits to the Dow Planetarium in Montreal fuelled my astro-fires even further; and finally, discovering the RASC’s Montreal Centre and its wonderful old observatory way up on Mount Royal, with inspiring people like Isabel Williamson who were always ready to welcome and instruct a newcomer.

## BOOKS FOR SALE: by Bruce Brandell, Sales Coordinator

### NOW AVAILABLE! 2010 RASC *Observer's Calendar* .....\$15.00

This colourful calendar features photos by RASC members from across Canada, with monthly info about conjunctions, eclipses, meteor showers, etc. Makes a great Xmas gift!

### SPECIAL PRICE! COSMOS by Sylvia Ardit & Marc Lachièze-Rey .....\$25.00

A stunning collection of 188 images taken by space-borne cameras including space probes and the Hubble. (Normally sells for \$49.95.)

**Tenho Tuomi:** The Galileo moment that inspired me into serious astronomy was the Leonid meteor storm of November 18, 2001. I had been interested in astronomy since the 1960s, when my wife bought me a department-store 30 mm telescope. In November 2001, I was asked to teach astronomy to a church young people’s group. We had our first meeting on November 17 and my assignment to them was to observe the Leonid meteor shower that night. As it turned out, everyone watched it, including their parents, and my reputation as an astronomer was instantly made. Velma and I watched from the comfort of our living room window and counted 500 meteors in one hour. In January, I bought a 114 mm SkyWatcher reflector and started observing seriously. That was a good scope that eventually earned my Messier certificate. In February, I found out that there is an astronomy club in Saskatoon and attended a meeting. There I found a nearby member, Garry Stone, who became my mentor. I joined the club, and the rest is history.



Astronomy class with sky globe borrowed from the school  
(adults were interested in the classes as well)

*Photo by Tenho Tuomi*

# All-Star Telescope

[www.All-StarTelescope.com](http://www.All-StarTelescope.com)

*Our Mission: Helping People Discover the Wonders of the Night Sky*



**\$300 Instant Rebate**  
all Celestron CGEM  
(Nov. 1 - Dec. 31, 2009)  
After Rebate Prices®  
CGEM800 - \$1899.95  
CGEM925 - \$2499.95  
CGEM1100 - \$2849.95

**Lowest Pricing  
Ever**  
on CGEM & NexStar SE



**\$100 Mail In Rebate**  
Celestron NexStar SE  
(Nov. 1 - Dec. 31, 2009)  
After Rebate Prices®  
NexStar 4SE - \$449.95  
NexStar 6SE - \$799.95  
NexStar 8SE - \$1199.95



**Orion Intelliscope XX12**  
Reg. \$1699.95  
Special - \$1549.95  
with cases & shroud  
\$1799.95

Coming Soon:  
Ethos 21mm

\*Note: All prices subject to change with changes in currency exchange rates.

Orion StarBlast 6" Celestron FirstScope Sky-Watcher Collapsible 10&12"

\$339.95

\$59.95

Collapsible 10&12"

1-866-310-8844 - Didsbury, Alberta  
Test drive equipment under dark skies

## ALBERTA • PREMIUM • OPTICS

Your Authorized dealer for

**WILLIAM OPTICS**

*SkyShed POD*

**IUNT SOLAR SYSTEMS**

*Unihedron Sky Quality Meter*

**ASTRONOMY TECHNOLOGIES**

**TMB Optical**

More lines coming soon

403-537-0752

[WWW.A-P-O.CA](http://WWW.A-P-O.CA)

**CELESTRON®**



NeuralNet Interactive is proud to announce that we sell the full line of Celestron products.

Stop by our store in Market Mall or go online at :

[www.neural-net.ca](http://www.neural-net.ca)



**NeuralNet**  
interactive

#62 - 2325 Preston Avenue South  
Saskatoon, SK S7J 2G2

1-306-651-1400

[www.neural-net.ca](http://www.neural-net.ca)



# The Planets This Month, December 2009

by Murray D. Paulson, RASC Edmonton Centre

**Mercury** has slowly made its way up from its November 5 conjunction with the Sun. By early December, it will be peeking out of evening twilight headed to December 18 greatest eastern elongation. It starts off the month (December 6) at magnitude -0.5 and declines only slightly to magnitude -0.4 by greatest elongation. Mercury lies below the ecliptic, so will be a bit difficult to spot. Look in the 220-degree compass direction, or due SW and about 2 to 5 degrees off the horizon depending on how long after sunset. (I am counting on your waiting 40 to 60 minutes after sunset to see it.) Use binoculars. On the night of the 18th, look for a fairly new Moon just 7 degrees up at a 45-degree angle south of Mercury. After the GEE, Mercury will head rapidly to a January 4 inferior conjunction with the Sun.

**Venus** is on her way out of the morning sky. We have a month left before her conjunction with the Sun on January 11, and it will become harder to see. December starts with Venus only 9 degrees from the Sun. This is a superior conjunction phenomenon. Venus moves very slowly on the far side of the Sun as it makes its way around. Shining at magnitude -3.9 and showing a 9.9" disk in the eyepiece, it is visible to those of you intent on finding it in the morning glare. On January 11, a -3.9 magnitude Venus will pass 33 arc-minutes below the Sun. This is a bit too close for comfort, but you can chase it till it gets to within 5 degrees. **Be extra cautious when observing anywhere near the Sun: a mistake can reward you with blindness.** The good thing is that the Sun's motion takes it away from you.

**Mars** begins the month high in the morning sky halfway between Leo and Cancer, heading towards Leo. It shines at magnitude -0.1 and will show you a 10.31" disk in the eyepiece. It now rises at 9:00 pm local time, but doesn't cross the meridian until 5:00 am! It is obviously gibbous, and the north polar cap is large and easy to see. We are about a month and a half away from opposition, and Mars is well positioned. The morning window will make it difficult for all but

the hardy or the Mars aficionados. On December 19, Mars hits its stationary point and starts retrograde motion back towards Cancer. By the first week of January, Mars will shine at magnitude -0.8 and expand to 13.1". It is 97 percent illuminated, no longer obviously gibbous, and rises at 7:00 pm local time. Because of its high position on the ecliptic, it will be well placed for viewing.

At the beginning of December, **Jupiter** sits low in the south just after sunset and transits the meridian at 5:00 pm. It shines at magnitude -2.2 and shows a 37.2" disk in the eyepiece. The window for seeing things on Jupiter is fairly short, and it only gets worse over the month. Jupiter sets at 10:00 pm at the beginning of the month, but at 8:40 pm by month's end. On the night of December 21, Jupiter passes only 32 arc-minutes below Neptune, and as a bonus, the Moon sits only 6.3 degrees to the east. Neptune shines at magnitude 7.9 and is 30.6 AU distant, whereas Jupiter is only 5.5 AU away. They will be close together for a week on either side of the 21st. Jupiter moves from Capricornus to Aquarius in early January.

**Saturn** sits in the arms of Virgo and rises at 1:40 am at the beginning of December. It shines at magnitude 0.9 shows a 17" disk in the eyepiece. It will be a good nightcap at the dark site when you are doing that all-nighter. By the beginning of January, Saturn rises at 11:45 pm and has grown to 18". The rings are tipped up at 4.9 degrees. While you are up checking out Mars, give Saturn a look.

**Uranus** still sits just below the circlet of Pisces, shining at magnitude 5.7. In the eyepiece, it shows a 3.5" disk. It sets at 1:00 am, so you have lots of time to check it out at the dark site. By early January, it sets at 11:00 pm.

**Pluto** is in conjunction with the Sun on December 24. We are 6 months away from its next opposition, so have thoughts of summer as you slide into Christmas.

# The Messier, H-400 & H-400-II, FNGC, Binoc & EtU Club

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or II, 135 Lunar, or 35 Binocular objects, or Explore the Universe and earn great OBSERVING CERTIFICATES!

## MESSIER CLUB

### Certified at 110 Objects:

R. Huziak, G. Sarty, S. Alexander, S. Ferguson, D. Jeffrey, D. Chatfield, B. Christie, K. Noesgaard, M. Stephens, B. Hydomako, T. Tuomi, L. Scott, G. Charpentier, B. Johnson, M. Clancy, L. Dickson, B. Burlingham

Ken Maher	Done!	110
Norma Jensen		108
Ron Waldron		105
Kathleen Houston		90
Margo Millar		77
Wade Selvig		75
Garry Stone		57
Wayne Schlapkohl	Up!	36
Ellen Dickson		32
Jeff Swick		24
Barb Wright		23
Bruce Brandell		5

## FINEST NGC CLUB

### Certified at 110 Objects:

R. Huziak, D. Jeffrey, G. Sarty, D. Chatfield, T. Tuomi

Larry Scott	Done!	110
Scott Alexander		97
Sandy Ferguson		23
George Charpentier		13
Ken Maher		10
Mike Clancy		7

## Chatfield BINOCULAR CERTIFICATE

### Certified at 35 to 40 Objects:

M. Stephens, T. Tuomi, M. Clancy, R. Huziak, K. Maher

## Isabel Williamson Lunar Observing Certificate

Norma Jensen	Up!	74
Jeff Swick	Up!	14

## EXPLORE the UNIVERSE

### Certified at 55 to 110 Objects:

M. Clancy, T. Tuomi, K. Maher, B. Gratias

Wayne Schlapkohl	55
Sharon Dice	23

## HERSCHEL 400 CLUB

### Certified at 400 Objects:

D. Jeffrey, R. Huziak, D. Chatfield

Tenho Tuomi	398
Gordon Sarty	251
Scott Alexander	117
Sandy Ferguson	18

## HERSCHEL 400-II CLUB

Darrell Chatfield	Up!	323
Rick Huziak		211

The Messier & Finest NGC lists can be found in the *Observer's Handbook*.

The Explore the Universe list is available on the National website.

The Binocular List will be available at each general meeting or can be mailed out on request to distant members.

On-line Messier and Finest NGC lists, charts and logbooks – check out:

<http://www.rasc.ca/observing>

On-line Herschel 400 List – check out the official site at:

<http://www.astroloegue.org/al/obsclubs/herschel/hers400.html>

Copies of the Isabel Williamson Lunar Observing Program Guide can be purchased from Bruce Brandell.

Program details can be found at: <http://www.rasc.ca/williamson/index.shtml>



## Observers Group Notes

by Larry Scott

Friday the 13th of November turned out to be a pleasant, enjoyable evening for the four members in attendance. Calm winds and clear skies had our hopes high for an exceptional night. Soon reality set in as we noted the poor transparency caused by dust and wheat chaff. Nevertheless, we were able to spy a few double stars, clusters, and bright nebulae through the haze.

Next Observers Group is scheduled for Friday, December 11, and is followed on the 13th by the Geminid meteor shower. This is an excellent shower and falls during dark skies for us this year. I urge all of you to make it out to Sleaford for this if we can manage some clear skies. The predicted peak is at 23:00 local time on the 13th.



Moon photo by Colin Chatfield