

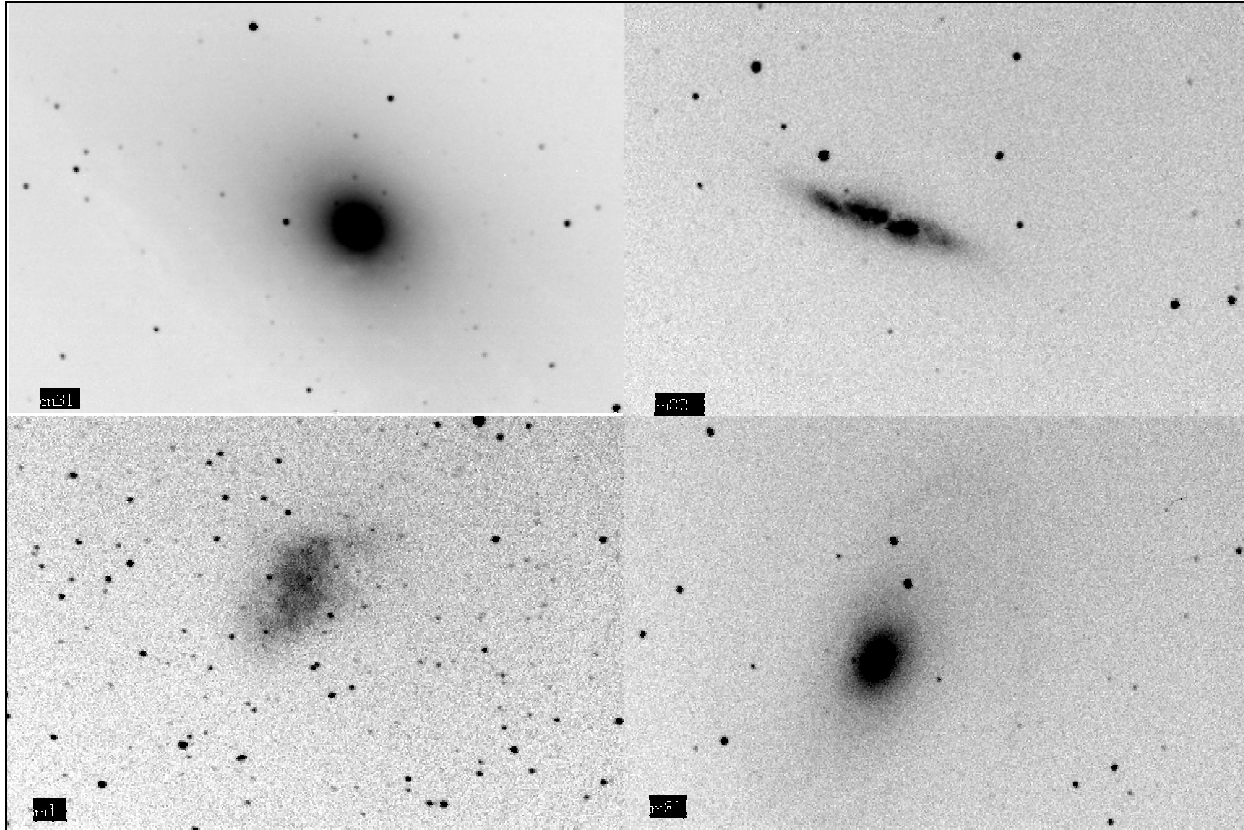
Saskatoon Skies

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

Volume 33

February 2002

Number 2



Cover photos by Tyrone Klassen using the U of S CCD camera from the top of the Physics building within Saskatoon city limits! Clockwise, the objects are M31, M82, M81 & M1.

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Saskatoon Centre

The Royal Astronomical Society of Canada

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Membership?

Regular - \$52.00 per year

Youth - \$27.50 per year

It's never too late to join!

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, Bob Christie, or renew through the National Office and let Bob know that you did!

Benefits of Membership in the Saskatoon Centre

- knowledgeable & friendly amateur astronomers
- use of the Sleaford Observatory
- use of the UofS 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
- free, no cost, no obligation, 3-month temporary membership if you don't want to join right now!

U of S Observatory Hours

The U of S Observatory is open to the general public every Saturday in February from 7:30 p.m. to 9:30 p.m. and in March from 8:30 p.m. to 10:30 p.m. Admission is 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.

About this Newsletter

Newsletter Editor - Richard Huziak

Copy - Brian Friesen & WBM

Collate – Brian Friesens, Bob Christie, Les & Ellen Dickson, Sandy Ferguson, Walter Essar

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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 articles. 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 - preferred as **plain unformatted ASCII text files without line breaks**. Images sent by e-mail should be attached .GIFs, .TIFs .JPGs or similar. Send e-mail submissions to the editor at <huziak@SEDSsystems.ca>. Please send articles in "generic" formats, with standard grammatical formatting appreciated - 5 spaces at the beginning of paragraphs, two spaces after periods, one space after commas. 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 stated), but source credit is requested. **DEADLINE for submissions is the 26th of each month.** *Saskatoon Skies* accepts commercial advertising. Please call the editor for rates. Members can advertise non-commercial items free of charge.

Bottle Drive to Raise Some Cash By Darrell Chatfield

Last month I announced a 'bring-it-to-the-meeting' bottle drive to do some fundraising for the Centre. If you did not bring your empties last time, bring them to the February meeting. I will collect them after the meeting concludes. If you cannot make it to the meeting, but would like to contribute, please call me at 374-9278.

RASC Calendar Happenings

Date (2002)	Event	Contact	Telephone
Feb. 18	General Meeting , Room 8313, City Hospital, 7:30 p.m., Brigette Hesman, ISAS, Infrared Astronomy from the CFHT	Les Dickson	249-1091
Feb. 25	Special Member's Meeting , Room 8313, City Hospital, 7:30 p.m., Partnership Agreement Information for All Members	Les Dickson	249-1091
Mar. 18	General Meeting , Room 8313, City Hospital, 7:30 p.m., speaker tbd,	Les Dickson	249-1091
Apr. 15	General Meeting , Room 8313, City Hospital, 7:30 p.m., speaker tbd,	Les Dickson	249-1091
Apr. 20	Astronomy Day Display , Mall tbd	Mike Stephens	
Apr. 2002	Edmonton Centre Georges Moores Astronomy & Teachers Workshop	Rick Huziak	665-3392
Apr. 21/22	Lyrid Meteor Peak	Rick Huziak	665-3392

Notice of a Special Members Meeting – The Partnership Agreement Monday, February 25, 2002 at 7:30 pm Room 8313 City Hospital

This meeting is an informational meeting for all general members of the RASC and will provide detailed information about the Partnership Agreement for the construction and operation of the Sleaford Observing Site. The Sleaford Observatory is a joint venture between the Saskatoon Centre of the RASC and the University of Saskatchewan - a legal partnership. The observing site will be managed by a 4-person committee called the Joint Site Management Committee (JSMC) made up of two executive members of the RASC and two representatives from the Department of Physics and Physical Engineering. The agreement will not be signed at this meeting, but it is important that details of this agreement be discussed by the general membership prior to its final signing, which will occur within the next few months in a public ceremony, date to be announced.

This meeting is an opportunity to learn all the details of the 45 paragraphs of this agreement. Each paragraph, covering intention, construction, costs, damages and land sale will be discussed and an explanation will be given for each detail. Any questions will be answered. This agreement has been approved by the RASC's lawyer, Don MacKinnon, and committee members, Les Dickson, Rick Huziak, Yannis Pahatouraglou and Stan Shadick. The

intention of this meeting is to provide information and not to change the agreement further.

The final signing of this agreement will represent continued good-faith between the U of S and the RASC that has been on-going since the RASC's establishment in 1969. Please attend.

Notice of the General Meeting of the Saskatoon Centre Monday, February 18, 2002 at 7:30 p.m. Room 8313 City Hospital

Presenting:
Brigette Hesman
Institute of Space and Atmospheric Studies,
University of Saskatchewan.

**Ms. Hesman's talk will reflect her
experiences using the Canadian-French-
Hawaiian Telescope (CFHT) and the
research she is conducting on solar system
objects, including specifically, the planet
Neptune. Everyone is welcome.**

Note: There is NO executive meeting on February 18th.

Saskatoon Centre Books 4 Sale

The Saskatoon Centre has a number of Firefly Books left over from SSSP sales, and these are now available to general members to purchase at discount rates! There are only one or two copies remaining of the following titles. Contact Debbie Anderson at 242-8854 or bazoo.inc@shaw.ca. Prices include GST, shipping and handling.

- Binocular Astronomy (hardcover) - \$37.00
 - Astrophotography (G.N.Patterson) - \$10.00**
 - Exploring the Sky by Day - \$7.00
 - Cambridge Star Atlas - \$35.00
 - RASC 2002 Calendars - \$8.00**
 - SkyWatchers Calendar - \$8.00**
 - RASC Stickers - \$0.50
 - Other Worlds - \$7.00
 - Extraterrestrials - \$8.00
- All prices are reduced. Prices marked ** are reduced to clear.**

The Planets This Month - February

By Murray D. Paulson, Edmonton Centre

Last month **Mercury** peaked in between the gaps in the weather and I managed to see it once, but not on the night of the favorable lunar conjunction. Near the end of January, Mercury sat in inferior conjunction with the sun, then swung back into the morning sky. On February 16 it will be at dichotomy with a 7.5" half phase at magnitude 0.0. Greatest western elongation occurs on the 21st when it will lie 26.5 degrees from the sun. On February 24, 8th magnitude Neptune lies 1/2 degree above brilliant Mercury. Splendid if you can find the pair in the glare. They rise at 6:46 am, just more than 3/4 hr before the sun. Now for the bad news. We find that for morning apparitions at this time of year the ecliptic is almost horizontal, and to make matters worse Mercury is slightly below the ecliptic! It is a fairly unfavorable apparition and I do not expect to get too many chances to see Mercury. It would make a good daytime target in the eyepiece with a telescope with a computer, or setting circles.

By February, **Venus** has moved into the evening sky. It starts off the month only 6.5 degrees from the sun and will double that distance by this time next month. You may start seeing it in the twilight glare in the latter part of the month. It will become easy to see in the daytime because it follows the sun and there is no worry that the sun might drift into view. For example, on February 28 at 11:30 a.m., Venus will be exactly 12-1/2 degrees due east of the sun. Find the sun with a low power eyepiece and your solar filter, then keeping exactly the same altitude, just push the scope east 12.5 degrees east and it should be there. Remember to take off the solar filter when you are sure that you are no longer pointed at the sun. (Remember to cover your finder scope so you do not accidentally burn the crosshairs off or get it in the eye.) If you wait till later in the day, Venus will appear higher than the sun, so you will have to raise the scope up as well as moving it east. I recommend using some software to predict what the position angles would be. Venus will show a 10" disk in the eyepiece and it shines at magnitude -3.9. On March 10th Venus crosses into the celestial equator and enters the northern sky.

Crazily as it seems, **Mars** is getting higher in the evening sky every month. By the time you can easily see it in late twilight, it sits 30 degrees above the horizon. Its red orb shines at magnitude 1.2 and it shows a 4.9" gibbous disk in the eyepiece. Diminutive, but you might see the polar cap if you try. On February 16, a 5-day old moon will sit 5 degrees below Mars.

Jupiter is already high in the sky by darkness and is well placed for evening viewing. It shines at magnitude -2.5 from its 4.500 au distance. In the eyepiece, it shows a 43.8" disk. I have been watching Jupiter between the clouds and the severe cold spells and have seen a few interesting Jovian satellite events, the Great Red Spot, or its hollow and some rather nice dark barges along the Northern Equatorial Belt. So far this month, I have only missed a **Callisto** shadow transit. I congratulate Bruce McCurdy on witnessing the **Ganymede** bullseye transit and welcome his observations. Roger Fell did some great simulations which you can see if you stop by his web page, <<http://www.telusplanet.net/public/rfell/bruce.htm>>.

There are some other interesting events coming up for this month. See your Observer's Handbook for a complete listing. The first high light event is a Ganymede eclipse occurring on the Saturday night, Feb 16 at 9:28 local time. We can only see the reappearance. Start observing 10 minutes in advance and look about one Jupiter diameter preceding Jupiter and inline with the North Temperate Belt. This is a skinny belt just above the North Equatorial Belt in a mirror diagonal view or below in a Newtonian view as the case may be. You will see a dim star like point of light about 5 minutes in advance of the listed time and at the listed time it should show a little more than a half disk at very high powers. Four minutes later it is out of Jupiter's shadow and back to full brightness. The next event is a complete Ganymede eclipse on the night of Feb. 23 starting at 10:24 p.m. local time and coming back out at 1:28. If you are lucky and can use high powers on these events, you will get a chance to see the half disk of Ganymede.

Saturn is also well placed for evening viewing. At magnitude 0.0 it shows a 18.8" disk in the eyepiece. It sits 9.058 au distant and its northpole is tilted 25.8 degrees toward us. With this tilt, Saturn's moons traverse high above and below the planet. It is cool seeing **Titan** so high above the planet. At maximum, it sits 72" of arc above Saturn. Compare this to its 180" that it can sit east or west of the planet! For example, February 21 at 8 p.m., Titan will sit near greatest eastern elongation. Four days later, it will sit below the south pole. Try just after sunset on February 25th. **Iapetus** sits even farther out. On the 21st, it sits about 3 times Titan's distance, or 9 minutes of arc, away from the planet on Titan's side. On the 11th of March, it sits 130" below Saturn's south pole.

Sky Buys and Mirror Cells The Saskatoon Centre's Swap and Sale Page!

Wanted: I'm looking for a **6mm eyepiece** – most any type will do. Call Gord Sarty at 966-2321 (work).

Wanted: Piggyback camera mount to fit a C8. Call Darrell at 374-9278.

For Sale: *A Guide to Pocket Astronomy*, by Ridpath, 192pp, color - \$10.00; *An Introduction into Practical Astronomy*, by Jones, 128pp, color - \$10.00; *Astronomy*, by Menzel, 320pp, color plates - \$15.00; *Burnham's Celestial Handbook*, 3-vol. set - \$30.00; *Sky Catalog 2000 -Vol 2*, by Sinnott - \$30.00; **Brass lined trunk** - will carry an 8" or 10" SCT - \$75.00; **Accessory case c/w pull and pluck foam**, 18" x 13"x 8" - \$20.00; **Parts tool kit**, 16" x 8" x 7"- \$10.00; **9-mm Kellner eyepiece** - \$20.00; Please note: all items are either in good or excellent condition. Please call Darrell at 374-9278 for details.

Comet LINEAR WM1 Returns & Ikeya-Zhang Discovered by Rick Huziak

A bright comet that high-tailed it to the southern hemisphere may return to us with a surprise. Comet C/2000 WM1 (LINEAR) headed south this winter, brightening to 6th magnitude as it disappeared below the southern horizon. But three weeks ago, the comet underwent an outburst that brightened it by 35 times, to magnitude 2.5! This was completely unexpected. The comet is now making a cosmic U-turn and will show itself above the southern horizon as this newsletter comes out. Initially predicted to be at magnitude 7.2, it may be substantially brighter as it appears in Sagittarius in the wee hours of the morning. Over the next few months, as it moves away from the sun, the comet climbs northward through Aquila, Hercules and Corona Borealis this spring. Unpredictable activity makes this comet worth looking for.

Early February brought the discovery of a new 9th magnitude comet named C/2002 Ikeya-Zhang low in Cetus at sunset. This is the first comet to be discovered visually or photographically by amateur astronomers since Comet Petriew last summer. By the beginning of March, this comet becomes a naked eye object!

Comet C/2001 WM1 (LINEAR)

Date (UT, 2002)	RA & Decl.	Mag.
Feb 20	1926.1 –3006	7.2
Mar 2	1923.9 –2155	7.9
Mar 12	1922.0 –1351	8.6
Mar 22	1918.4 – 0549	9.2
Apr 1	1912.0 +0210	9.7
Apr 11	1902.0 +0958	10.1
Apr 21	1848.0 +1718	10.6

Comet C/2002 (Ikeya-Zhang)

Date (UT, 2002)	RA & Decl.	Mag.
Feb 20	0043.2 –0653	7.1
Mar 2	0103.7 +0058	5.9
Mar 12	0121.6 +1102	4.7
Mar 22	0127.5 +2325	4.0
Apr 1	0109.3 +3709	4.2
Apr 11	0015.2 +5100	4.6
Apr 21	2211.4 +6209	5.2

Other "bright" future comets to watch out for that will be brighter than 11th magnitude given in this table:

Comet Name	Becomes > 11 mag. Beginning
C/2001 RX14 (LINEAR)	Dec. 2002
C/2001 HT50 (LINEAR-NEAT)	Feb. 2003

A New Format – Feedback, Please! By Rick Huziak, Editor

Welcome to the new newsletter format. We are now going to a 10-page thick 8-1/2" x 11" format in order to better suit Internet publishing. Feedback on this new format is appreciated. My first issue of this newsletter got a fine howdy-do when I was in the middle of one of the last cut and pastes and had a power outage that destroyed much of this file! So if you find an occasional sentence that sense not makes is, just blame it on Sask Power! Otherwise, please enjoy! I can always use articles. Next month, I will have an article describing the antics of the editor and supporting staff on what it really takes to get a newsletter out – power outages not included! Maybe I'll even get creative with design layout!

MINUTES FOR RASC EXECUTIVE MEETING**January 21, 2002, CITY HOSPITAL Room 8313**Recorded by **Al Hartridge, Secretary**

1. Minutes of the previous meeting approved. Moved by Barb Young and seconded by Gord Sarty and carried.
2. Purchase of Shelter: moved by Les Dickson and seconded by Tyrone Klassen and carried that the club purchase the tent shelter used at the last SSSP from Darrell Chatfield for the sum of \$105.00. This includes the other accessories that come with it.
3. SSSP 2002: the first planning meeting will be held at Sandy Ferguson's on Sunday, February 10 at 2:00 p.m.
4. Treasurer's Report: present balance is \$12,332.21.
5. Fundraising: Darrell will be picking up any bottles, etc. that people bring this evening.
6. Membership: there are at present 72 paid up members.
7. Sleaford: Bill is still working on the rotation problem with the dome. The pier is partially aligned.
8. Science fairs: there is a national science fair and also a Sask. Regional science fair coming up soon. If there is anyone interested in being a judge please sign up.
9. Teacher's workshops: may be a way for our club to earn some revenue.
10. Partnership Agreement: is now very close to being signed.
11. Information meeting: Rick is willing to hold a meeting for people who would like to more detail regarding the partnership agreement.
12. Computer: the club has a surplus 486dx computer available.
13. Meeting adjourned at 7:30 p.m.

MINUTES FOR RASC GENERAL MEETING**January 21, 2002, CITY HOSPITAL Room 8313**Recorded by **Al Hartridge, Secretary**

1. Presentations:
 - Gord Sarty: The Rare Eclipse of OW Gemini
 - Rick Huziak: The new Uranometria 2000.0 Sky Atlas and tripod shots from Sleaford
2. Approval of the minutes of the last meeting. Moved by Bob Christie and seconded by Jim Young and carried.
3. SSSP: will be held on Aug.9-11, 2002. The guest speaker will be Vance Petriew. He will give a multi-media presentation on his comet discovery.
4. Treasurer's Report: presentation is \$12,332.31.
5. Fundraising: Darrell will take bottles tonight or anytime. He is also soliciting for funds presently.
6. Membership: if renewing through National Office, please let Bob Christie know so he can cross check their list.
7. Newsletter: will go to an 8-1/2 x 11 page.
8. Youth group: only one member at this time. Tyrone is hoping for bigger and better in the future.
9. Sleaford: the C8 is in the dome and partially aligned. The drive still needs work. Also still working on the problem with the dome rotation.
10. Partnership Agreement: is with the U of S administration. One word needs to be changed.
11. Explanatory meeting: Rick is willing to hold a meeting to discuss the details of the partnership agreement with any members who wish to learn more about this document. Feb. 25 has been suggested as a date for this meeting.
12. Gastronomy night at faculty club suggested as a celebration of the signing of the partnership agreement. At least 20 people appear to be interested in this.
13. Science fairs: there are two science fairs coming up in the near future. If any one is interested in being a judge at these events please sign up.
14. Computer surplus: the club now has a surplus 486dx available.
15. Telescope Rental Program: all the rental telescopes at this time are available.
16. Astrophotography book, by Gordon Patterson. The remaining copies of this book have been donated to the club by the publisher. Rick Huziak moved and Les Dickson seconded and it was carried that we accept this donation and with the first proceeds we buy the publisher Len Herrem a membership.
17. Books etc: Debbie Anderson will put in a new order to Sky Publishing next week. You will get books cheaper if you order through her.
18. Ad Hoc committee on professional development for teachers at the elementary school level. A long-term project to teach basic astronomy to the teachers may earn money for the club.
19. Meeting adjourned at 9:37 p.m.

Earth Satellite Passes

By Les Dickson (from www.heavens-above.com)

International Space Station Evening Passes – February 15 to March 18

Date	Mag	Starts			Max.			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
15 Feb	0.1	18:59:31	10	W	19:02:36	52	SSW	19:05:39	10	ESE
15 Feb	2.0	20:36:10	10	WSW	20:38:06	15	SW	20:38:49	14	SSW
16 Feb	1.4	19:36:29	10	W	19:39:09	25	SSW	19:41:47	10	SSE
17 Feb	2.7	20:14:48	10	SW	20:15:18	10	SW	20:15:48	10	SSW
18 Feb	2.1	19:13:55	10	W	19:16:08	18	SW	19:18:22	10	S

There are no visible evening passes between February 18 and March 18. For more info about the International Space Station, visit their website at <http://spaceflight.nasa.gov/station/>

Starshine 3 Evening Passes – February 15 to March 18

There are no visible evening passes between February 15 and March 18. The purpose of the Starshine 3 project "...is to encourage student around the world to participate in an actual space mission. The spacecraft is like a large disco ball with many small mirrors which glint in the sunlight as the spacecraft rotates and make it visible to observers on the ground. ...In addition to the optical tracking, Starshine 3 also carries an amateur radio payload which broadcasts the current satellite spin rate". For more information, visit the project website at <http://www.azinet.com/starshine/>.

Iridium Evening Passes – February 15 to March 18

Date	Time	Local Intensity	Alt.	Azimuth	Distance to Flare Centre	Satellite
15 Feb	20:33:19	-4	34°	15° (NNE)	12.8 km (W)	Iridium 76
16 Feb	20:27:09	-3	35°	16° (NNE)	16.4 km (E)	Iridium 46
17 Feb	20:21:00	-0	37°	17° (NNE)	34.3 km (E)	Iridium 49
22 Feb	19:59:14	-1	48°	14° (NNE)	24.0 km (W)	Iridium 76
23 Feb	19:53:05	-8	49°	16° (NNE)	2.4 km (E)	Iridium 46
24 Feb	19:47:00	-2	50°	17° (NNE)	16.5 km (E)	Iridium 49
01 Mar	21:32:51	-3	12°	6° (N)	21.2 km (E)	Iridium 32
02 Mar	19:19:15	-1	61°	9° (N)	28.0 km (W)	Iridium 46
02 Mar	21:26:35	-6	15°	6° (N)	1.2 km (E)	Iridium 58
03 Mar	19:13:14	-2	62°	10° (N)	16.3 km (W)	Iridium 49
03 Mar	21:19:56	-6	19°	6° (N)	3.5 km (W)	Iridium 55
04 Mar	19:07:11	-8	64°	12° (NNE)	1.9 km (E)	Iridium 22
04 Mar	21:13:19	-4	21°	7° (N)	10.4 km (E)	Iridium 30
05 Mar	21:07:03	-2	24°	7° (N)	19.2 km (E)	Iridium 33
06 Mar	21:00:43	-0	26°	8° (N)	33.3 km (E)	Iridium 59
12 Mar	20:32:34	-1	38°	4° (N)	29.2 km (W)	Iridium 33
14 Mar	20:20:08	-7	41°	5° (N)	5.0 km (E)	Iridium 28
15 Mar	20:14:06	-2	43°	6° (N)	18.4 km (E)	Iridium 31

The Sleaford Observatory

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

Watch for this page returning next issue!

The Messier, Herschel 400, Finest NGC and Binocular Club

Join the Club! Observe all 110 Messier, 100 Finest NGC, 400 Herschel, or 80 Binocular objects 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

Bill Hydomako	78
Wade Selvig	71
Mike Oosterlaken	68
Lorne Jensen	44
Brent Gratias	39
Stan Noble	28
Tyrone Klassen	26
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
Mike Stephens	42
Ken Noesgaard	24
Sandy Ferguson	23
Mike Oosterlaken	15

Chatfield BINOCULAR CERTIFICATE

Certified at 400 Objects: M. Stephens

Mike Oosterlaken	32
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HERSCHEL 400 CLUB

Certified at 400 Objects: D. Jeffrey, R. Huziak

Darrell Chatfield	Almost there!	285
Gord Sarty		171
Scott Alexander		102
Mike Stephens		59
Ken Noesgaard		44
Mike Oosterlaken		44
Sandy Ferguson		18

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.

Elsewhere in this issue, Mike Stephens shows that the above observers are making an above-average effort to see the sky! Get onto the list and help us to stay the best observing Centre in Canada!
Send observing numbers to <huziak@SEDSsystems.ca>

Canadians Honoured with Asteroid Names

By Peter Jedicke, National 2nd Vice President pjedicke@FANSHAWEC.ON.CA (from the RASCLIST)

Hi everyone. Four new asteroids with Canadian connections were announced in the Minor Planet Circular on Jan 28. Congrats to all of these deserving Canadians! They are:

(12014) Bobhawkes = 1996 VX1 - Discovered 1996 Nov. 5 by Spacewatch at Kitt Peak. Robert Lewis Hawkes (b. 1951) became head of the Physics department at Mount Allison University in Sackville, New Brunswick, in 2000. His graduate work at the University of Western Ontario in 1979 was on the dustball theory of meteoroids.

(12343) Martinbeech = 1993 DT1 - Discovered 1993 Feb. 26 by Spacewatch at Kitt Peak. Martin Beech (b. 1959) is an assistant professor of astronomy at the University of Regina, Saskatchewan. He does research on meteor light curves, the dynamics of meteoroid streams, cometary aging and meteoroid-stream formation.

(12382) Niagara Falls = 1994 SO5 - Discovered 1994 Sept. 28 by Spacewatch at Kitt Peak. Niagara Falls is the thundering cataract on the Niagara River between Lake Erie and Lake Ontario and is famous as a honeymoon destination. Hydroelectric power has been generated there since 1916. (BTW, somebody typed something wrong, because power generation started in *Niffles* in 1906, not 1916.)

(12397) Peterbrown = 1995 FV14 - Discovered 1995 Mar. 27 by Spacewatch at Kitt Peak. Peter Gordon Brown (b. 1970) studied at the University of Alberta and the University of Western Ontario and was appointed to the faculty of the latter. His specialties are meteoroid streams, meteor analysis and meteorite recovery.

National Observing Certificate Stats – We're Doing Pretty Good!

From: Mike Stephens <mike.stephens@sk.sympatico.ca>

I was going over some of the reports from the National Council meeting of Jan 26 and put together a few interesting statistics regarding observing certificates. I recognize that many Centres are doing a lot of non-certificate projects, and I am not trying to belittle their efforts, but Saskatoon Centre is certainly an active Centre certificate-wise. (Remember, the Saskatoon Centre makes up only 1.7% of the National Membership.)

FNGC List:

Total awarded nationally as of Jan 2002: 41
Total awarded to Saskatoon: 4 or 9.8% of total
Percentage of Centre members awarded FNGC: 5.5%

Certificates awarded to Toronto - 5, Kingston - 4 and Halifax - 4. These are the only Centres to exceed or equal our total. Given their much larger membership bases, I am somewhat surprised by their low totals. This becomes more apparent if one compares the ratio of a Centre's % of certificates awarded to the Centre's % of national membership. If all Centres are observing at the same rate, a Centre that has 10% of the certificates awarded and makes up 10% of the national membership would have a ratio of 1:1. Here are the ratios:

Toronto: 0.7:1
Halifax: 2.3:1
Kingston: 3:1
Saskatoon: 5.8:1

(Note: Montreal has great Messier numbers listed below, but has not had one FNGC awarded yet.)

Messier List:

Total awarded nationally as of Jan. 2002: 189
Total awarded to Saskatoon: 9 or 4.8% of total

Percentage of Centre members awarded Messier certificate: 12.3%

Other Centres with equal or larger % of members awarded Messier certificates:

Windsor: 12.1%
London: 12.2%
Montreal: 22.7% (wow!)

Using the ratio method from above the following numbers result:

Toronto: 0.7:1 (consistent if nothing else)
London: 2.8:1
Saskatoon: 2.8:1
Windsor: 2.9:1
Montreal: 4:1

If we sum up the ratio performances of all Centres for both Messier and FNGC certificates, the top two are:

Saskatoon: 3.40:1 (Numero Uno!!)
Montreal: 3.25:1

Just imagine what would happen to the numbers if a few more people got out to Sleaford occasionally!

Some of this data may be useful, some useless, use whatever you feel puts the Centre in best light.

Clear Skies!

p.s. Regina has 1 Messier certificate. They may have one comet discovery, but Bruce McCurdy thinks Rick Huziak should have gotten half the credit. Comet Huziak-Petrew has a nice ring to it. [Sorry Bruce – its just "Petrew"! – Ed.]

Images on Our Regina Centre Web-site

By Petrew, Vance <vance.petrew@saskeds.com>

You gotta check out the pictures that Kevin Fleck has taken with his camera! They're awesome! I scanned some of them in an posted them into the Club Photo Gallery on the web site. I especially like the dark lanes in the Milky Way images (even though the Lagoon Nebula and aurora pictures look fabulous).

<http://www.ras.sk.ca/ClubPhotos/ClubPhotos.htm#MemberPhotos>

I also put up a few pictures I took of the Leonids as well. If anyone has images they want scanned for the web site, let me know.

New & Bright Supernova in M74

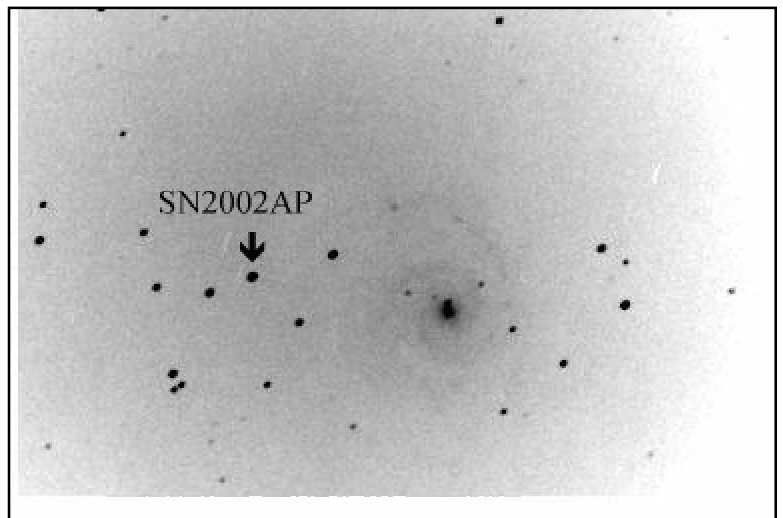
Submitted by Scott Alexander <s.alexander@sk.sympatico.ca>

I just got this from a friend. There is a new supernova in the galaxy M74 in Pisces.

“From Brian Skiff: A supernova has been discovered in M74, announced on IAU Circular 7810 today. The position is 1h 36m 23s.9 +15o 45m 13s⁽²⁰⁰⁰⁾, about 4'.5 west and nearly 2' south of the center of the galaxy. Reported to be about mag. 14. Obviously this could become quite bright if it is a type Ia event. F and FR-scale charts for SN2001AP have been posted to the following URL: <http://www.aavso.org/charts/PSC/SN2002AP/> “

At the time of the publication of this newsletter, this supernova is at about 12th magnitude and just leveling off in brightness. This makes it visible in telescopes as small as 4 inches. You will need the chart to identify the supernova since there are a number of 12th magnitude stars to the west of this galaxy. Stan Shadick commented after seeing a U of S CCD photo of this supernova that he was surprised how this one event seemed to outshine the rest of the galaxy! The power of a supernova is amount the most energetic events in the universe. Good luck with it.

The accompanying photograph was taken by Stan Shadick using the U of S CCD camera mounted on the Meade 12-inch telescope on top of the Physics building. It is the sum of 8 separate 3-minute CCD exposures of M74 that he took on the evening of Feb. 7th, using calibration images taken by Wade Caswell on Feb. 5th. The galaxy's spiral arms appear very faint but the supernova is much brighter. The supernova is the bright middle star of the W-shaped pattern of foreground (Milky Way) stars to the left of the galaxy. If you look very closely, you can barely make out the galaxy's outer spiral arm arcing towards the position of the supernova. It is remarkable how much brighter this supernova appears in comparison with the rest of the galaxy. Note south is up on this image. The image quality may have been affected by some thin clouds and city light pollution. [Newsletter reproduction techniques don't help much, either! – Ed.]. Using the MaxIm magnitude tool, the approximate magnitude of the supernova was 12.4 on the evening of Feb. 7.



MISSION JUPITER – A Book Review

By Dale Jeffrey <dale.jeffrey@sk.sympatico.ca>

MISSION JUPITER - The Spectacular Journey of the GALILEO Spacecraft by Daniel Fischer, Copernicus Books - New York, 1998 and revised 2001, \$49.95 CDN, hardcover - 317 pg.

This book, available through the library or through McNally Robinson bookstore in Saskatoon, is an absolutely fascinating account of the trials and major accomplishments of the Galileo spacecraft. From the project's inception (first conceived in 1969) and continuing through design and implementation, to an objective review of the scientific results, the reader is brought into the heart of NASA and the Jet Propulsion Laboratory. As though firsthand, we are made to see each photograph or other science result with the rest of the team, and it is truly awe inspiring. Even better, we are pointed at other resources available via the Internet and printed media so that our studies can continue.

Galileo still operates in the Jovian system, but its death sentence has now been pronounced. With one more flyby of the little inner moon Amalthea still to come, course maneuvers are now being made to ensure the spacecraft's final demise into the heart of Jupiter itself in the autumn of 2003. This will guarantee the biological integrity of Europa (eliminating the risk of a crash there that might compromise any extant ecosystem). By its descent into the depths of the gas giant, Galileo will then become part of its object of study.

The launch of Galileo and Cassini, now enroute to Saturn, brings NASA's Outer Solar System Tour to an end, at least for now. In comparison to the new Discovery class missions to Mars, Galileo and Cassini are *Battlestar Galactica* - hugely expensive but breathtaking in their capabilities. If you're a planetary junkie, or if you just like seeing the technologically improbable become reality, I highly recommend this book. It is history at its finest.