



Regulus



The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada –July 2006

Coming up...

RASC Regular Meetings

Queen's University
Stirling Hall Theatre D

Friday July 14

Guy Nason "IOTA- International Occultation Timings Association"

Friday August 11

Annual BBQ at Mark Kaye's Meetings are co-sponsored by Queen's Physics and include astronomy lectures open to the public.

KAON Public Observing

Queen's Observatory
Ellis Hall

Saturday July 8 9:00 - 10:30

Saturday Aug 12 9:00 - 10:30

AstroYak

AstroYak is cancelled for July and August

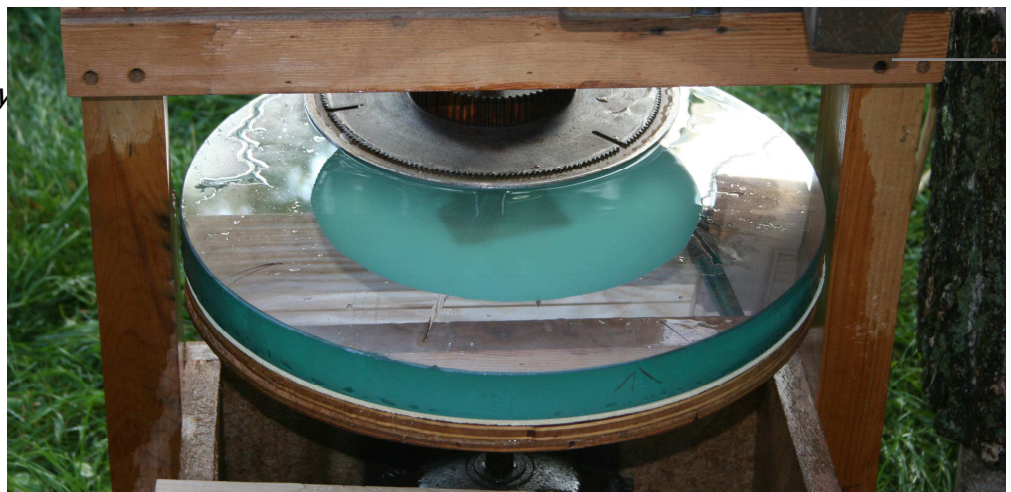
Members Observing

July 3-10 Lemoine Point

August 19-29 Nirvana



Work has started on the latest telescope project. Here Kevin contemplates the curve generating machine, a combination of various leftovers from other projects. The generator is making the rough grinding much quicker. It's about 50% complete at this point. Watch for more on the project in future issues of Regulus



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President's Tid Bits

Kim Hay

A short, and sweet note this month. Summer Solstice officially arrived on June 21 at 8:26 am, and along with it, calls for severe thunderstorms and rain, with tornado funnel clouds spotted in the western part of Ontario.

The mosquitoes are out in full force at the beginning of the evening, but braving the bugs, on the evening of June 21 we were pleased the clouds cleared for us to view Mercury low in the northwest horizon, Mars and Saturn following close behind, and Jupiter shining brightly in the southern sky. Early that morning, I was able to view Venus and waning crescent moon at 4:28 am. in the east.

Those are just some of the treats we have in the sky, and the summer star party season has already started.

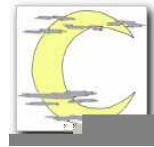
Lets hope to see some of you at the Bon Echo Park Belleville Centre's campsite #602 on July 21-22 (Friday & Saturday) to take in a night of dark sky observing and companionship. The moon will be close to new.

Starfest, Mount Kobau, SSSP are the star parties on hand for the August months. Our very own joint star party with Belleville and this year the Peterborough Astronomical Association, on September 22-24 (Friday to Sunday) in Thomasburg.

Our August meeting will be Markfest BBQ held at the home of Mark and Linda, on Loughborough Lake, north of Kingston.

Though we may not see too much of each other over the summer months, with the summer vacations at hand, lets all have a safe, happy and clear skies summer.

Till later, clear skies



News Shorts

AstroYak in Yarker Summer Hiatus

Each month, Kevin and Kim invite RASC-KC members and friends to their home for AstroYak - a time for chatting about astronomy and anything else we like. Friday June 23rd, 2006 will be the last AstroYak in Yarker for the summer. Feel free to drop in any time after 19:00 EDT. July, August and September are cancelled due to scheduling conflicts. In the past we've tried moving it by one week in either direction, but even that hasn't helped this very busy summer. We will start up again on Friday October 27th, 2006, after 19:00 EDT.

Fall'N'Stars 2006 Update

Our 7th Annual Star Party, held in conjunction with the RASC-Belleville Centre and this year also with the Peterborough Astronomical Association, will be held on the weekend of September 22-24th, 2006. For more details visit the Fall'N'Star website at <http://www.rascbelleville.ca/fallnstars/> The location is the same again this year, at the Vanderwater Conservation Area Boy Scout Camping Area, Thomasburg, Ontario. In past years we've had about 40 members and friends join us for games, talks, and some great dark sky observing.

Greetings From the Montreal Centre

Every month the RASC Montreal Centre receives your Centre's newsletter, and we appreciate the effort you make to keep us in touch with your activities. Thank you!

As editor of the Montreal Centre's newsletter, I'd like to invite you to read our newsletter Skyward! on-line via our Centre's website.

Please go to:

<http://www.rascmontreal.org>

and click on the "Members Only" tab. You'll be prompted for a username and password, which are:

username: montrealcentre

password: cygnus

Once in the Members section, click on "Skyward" which links you to a page where you'll be able to download our newsletters in pdf format.

Should you have any questions, please don't hesitate to get in touch with me. Have a nice day and clear skies,

Bettina Forget
Skyward! editor
RASC Montreal Centre

Observational Astronomy for the Novice Course Update

So far we have completed two very successful OAFTN courses over the last year. Thanks to course instructors Doug Angle, Peggy Hurley and Kevin Kell!

We are intending to hold another class in the fall. The course location for September has been moved out to the Isabel Turner Library near the Cataraqui Town Centre on Gardiners Road due to the worsening availability of

classrooms on Queen's University Campus and the high room rental rates.

The non-credit course is aimed at both members of the general public who have an interest in astronomy and to members of the RASC-KC who are looking for some formal instruction in a classroom setting.

Details of the course will be posted on our website soon, but some of the details include a start date in late September, 8 weeks of classes on Monday evenings from 18:30-20:30 and one session on the Queen's Ellis Hall Observing Deck.

OAFTN will teach the novice :

- how to get around the night sky,
- the use of star maps,
- constellations,
- basic telescope principles
- and much more!

As part of the course you will complete the RASC "Explore the Universe" Observing Certificate. This certificate program will show you a sample of all the night sky has to offer.

Watch for more info in Regulus, or contact a member of the executive. Want to reserve a space in the next class? Simply send an email to the centre address kingston@rasc.ca

Room Change

Regular meetings are currently at Queen's University in Stirling Hall theatre "D". In order to facilitate a closer atmosphere, we'll be moving to theatre "A" starting in September. We are still waiting for confirmation from Queen's reservations, so consider this conditional for now. Theatre "A" is just down the hall from theatre "D"



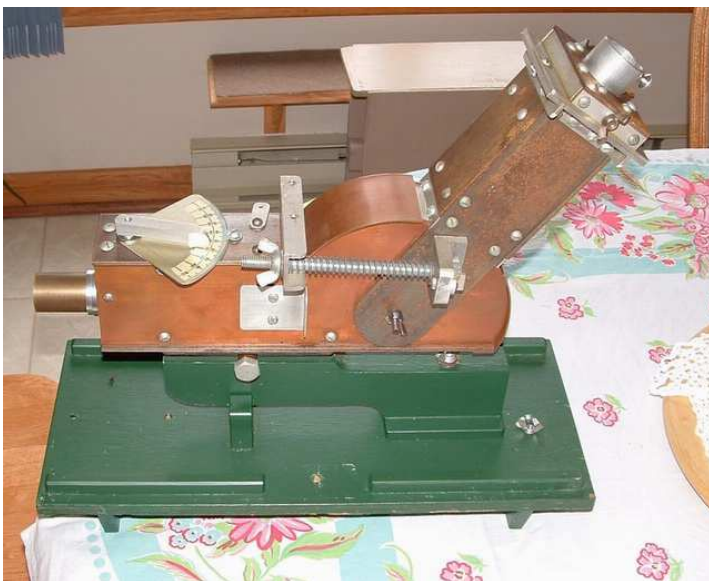
Equipment Donations to the RASC-KC

Kevin Kell

Thanks to our always hard working facilitator, Mark Kaye, we have received donations of two spectroscopes. I'm sorry I didn't write down the details of where and who they came from, but we'll track that down and add it into the equipment manifest.



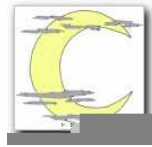
The small spectroscope. The small tube at left fits a 1.25" focuser.



The large spectroscope. Both units will go into the equipment loan program.

The two units (one small and one large) will be put into our Equipment Loan Program as the donor wanted them to be used.

We don't know too much more about them, other than they involve slit design, are homemade and come with some software. If you have ever been interested in spectroscopy, try these out and see what you can come up with!



June Observing

Joseph Benderavage

During winter observations, one of the consoling thoughts I harboured was that clear skies would inevitably happen during warmer weather without risk of frostbite. That happened June 15 when I planned to see Saturn and Mars near the Beehive Cluster in Cancer. Unfortunately, I could not see them together in the same 25mm eyepiece, and viewing time was abbreviated because of a haze in the atmosphere.



But I did see something new, and I was able to photograph it. You see it here, in two photographs: Scorpius, and Sagittarius. Both are fully above the horizon, and it was the first

time I had ever seen them. Of the three stars that form the forward part of Scorpius, the lowest, pi Scorpii, was as visually evident as the other two stars, beta 1 Scorpii (“Graffias”), and delta Scorpii (“Dschubba”), but pi Scorpii



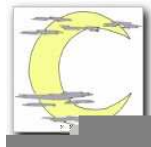
did not seem to photograph well. It may have been a consequence of the previously mentioned haze rising, pushed by periodic offshore winds during an otherwise calm evening to visually block that particular star, and not the others.

In the photo of Sagittarius, the “Teapot” section of the constellation is poised neatly above the treetops as if awaiting liftoff. The long leg from zeta Sagittarii (“Ascella”) which should extend southward past Corona Australis is not visible.

Photos of both constellations were made with a 30-second exposure time at f2.6 with a 5-megapixel Sony DSC-P93A digital camera. Both pictures were taken from LeMoine Point.

Jupiter and four of its moons were visible in Libra with a 15mm eyepiece, but as the song

goes, they were unphotographable, yet unforgettable, too. I did try making photos of Saturn, Mars, and the Beehive Cluster at a variety of shutter speeds, from 4 seconds to 15 seconds, but they were handheld, and so were out of focus. In the case of Jupiter, the planet was moving too fast to create an integral, comprehensive image, even at faster exposures. With a handheld camera having to be held steady up to the eyepiece with both hands, there are not enough hands left to do mechanical tracking with the Right Ascension slow motion control cable on the Orbitor 1144mm (4.5”) Newtonian reflecting telescope with equatorial mount.



Relay for Life 2006

by Kim Hay

June 2, 2006 was the annual Relay for Life (Cancer Research) at RMC (Royal Military College) in Kingston. Though the clouds did not part for clear skies, and we did get a few rain drops, the night was a success.

We (Hank, Kevin and I) showed up around 7:00 pm to set up in the south end of the parade square playing field. This is the best spot to the south, with only a few lights to deal with, but most of the sky. There was no tent this year, but I think it worked out well. We put the vans up on the hill, and put the table under it with the hand-outs, had our chairs there, and were able to show more this year than last year. Though there was a list being created of possibilities for next year.

We also had two of our newest members come out and help and sit with us for awhile, Rene Testa and Donna MacMillian.

Hank had his computer with a slide show of Rogues Hollow Observatory and pictures he had taken. There were posters, magazines and starmaps, KC Flyers to hand out. The meteor display was also there, and this was a huge hit with young and older persons as alike. Many had never seen a meteorite, but to see a piece of the Mars meteor, really impressed them.

Telescopes were on hand to view the swarms of gnat bugs in the trees, and the clock tower face. Quoting one person "It reminds me of Peter Pan, the clock is right there, big and in your face" There was the fake moon eyepiece put in one scope, and people looked and thought it was cool, some questioned it, and knew the secret, others just accepted it. This is a challenge, and a misconception we must break, as a lot of people still thought we could see stars through the clouds using our telescopes.

At 10:00pm, the Bagpipers played Amazing Grace, and a few other Scottish favourite songs, and the lighting ceremonies of the memory candles were lit, and they would stay that way all night. There was live music, with the Relay Idol at 3:00 am, the rooster crow soundoff at 5:00 am and breakfast at 6:00 am with the event winding up at 7:00 am June 3.

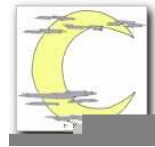
We may see a great number of people at KAON next Saturday night, as most people did not know there was an open house, or an observatory in Kingston. Lots of interest in joining the club, one survivor who always had an interest in astronomy, has 3 telescopes and is very keen was interested in the club.

We may not have had clear skies to show the wonders of the Universe, but we were there to help with the entertainment. This year we were even mentioned. It was nice to see some of the groups from last year, and new groups

this year. Last year there were 124 teams, this year 136 teams. On average, there is 2500 at the event, with 1000 staying over night.

It was mentioned to us that at the organizing meeting of the Relay for Life that we were coming back. Everyone was very glad, as lots of people enjoyed the observing last year, and the one on one talks about astronomy and any questions they had.

Thanks to all that came out to help, Hank, Kevin, Rene, and Donna. It was a great night, and looking forward to next year and clearer skies.



Target for Tonight

Susan Gagnon

Target for Tonight is an observing by constellation planning tool. Look for additions to the Target for Tonight each month.

The first installment of this column came to you in the February 2006 issue of Regulus, along with a lengthy preamble. I will be brief here and just say that these lists have 2 purposes.

- a) to help provide some structure to a beginning observers' session planning.
- b) to provide a method of tracking objects observed in the context of some of the lists that have been compiled by experienced observers.

Happy Observing! SG

Bootes

ETU: Arcturus, Mu 51

Messier: none

Finest NGC: 5466

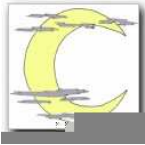
Levy List: 5 (NGC 5676), 185 (NGC 5248)

ETU: Ras Algethi, M13.

Messier: M13, M92.

Finest NGC: 6210

Levy List: 6 (NGC 6229), 19 (NGC 6207), 36 (NGC 6364), 205 (NGC 6106), 236 (NGC 6181).



Regular meeting of Friday June 9th

Kevin Kell

(with material from <http://www.ctio.noao.edu/supermacho/lightechos/index.html>, used with permission)

Dr. Doug Welch of McMaster University and RASC Hamilton Centre was our guest speaker with a topic of Light Echoes in the LMC (Large Magellanic Cloud).



Doug Welch gave a captivating talk to about 40 members of the centre and public.

Photo by Kevin Kell

In recent years, light echoes have been discovered around some nearby extragalactic supernovae well after the explosion, most notably the light echoes from Supernova 87A. However, to date no light echoes of historical

Supernovae (SNe) of Galactic or extragalactic origin have been discovered. The SuperMACHO collaboration, of which Dr. Welch is a part, has discovered 3 new light echoes in the Large Magellanic Cloud which are associated with ancient supernova remnants listed as three of the six youngest SNRs in the LMC. These three remnants are also identified as Type Ia events, based on the X-ray spectral abundances. They have dated these echoes at 400-600 years.

The echoes were detected in difference images of digital data from the SuperMACHO Survey.

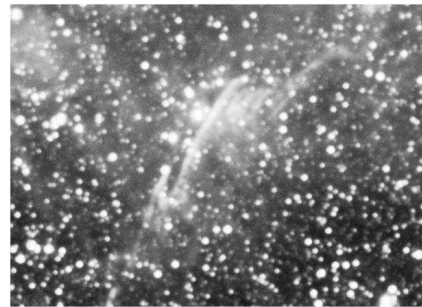
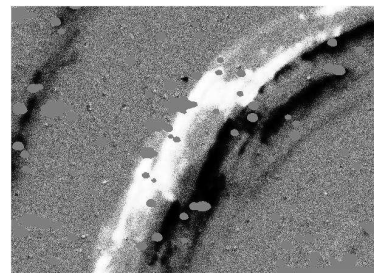


Image taken 12/08/2005 taken as part of the SuperMacho survey

Original image taken 01/07/2002 as part of the same survey



Difference image obtained by subtracting the second image from the first. This removes stars and nebula, leaving the light echo behind.

These difference images are images from one time subtracted from another time. The difference images removed all the static artifacts (stars and nebulae) and only variable

objects such as variable stars and echoes remain in the data.

The newly discovered light echos are quite faint, so to obtain reliable spectra, Dr. Welch and the team used the 8m Gemini telescope in Chili.

There are probably undiscovered light echos in our own galaxy from supernova seen in the 16th and 17th centuries. Dr. Welch had the audience on the edges of their seats when he described how these would be much brighter, to the point of being detectable by amateurs. Many amateur astrophotographers tend to image the same areas over and over with the same CCD and telescope. However, they would normally add the images to get a stronger signal. By taking differences instead, particularly for images taken months or years apart, it should be possible to detect light echos. Want to be the first on your block to make such a discovery? Just dredge up your old digital astrophotos, and start subtracting.

In addition to the talk, we had our regular meeting activities. I'd like to thank the winner of our door prize Kevin Fetter for donating the prize over to our guest speaker, who was very appreciative to say the least! Thanks also to Tessa Clark for the continued donations to support the centre.



Portable Power

Kevin Kell

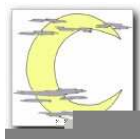
Last night (Friday June 2nd) at the Relay for Life event at the Royal Military College, RMC we tried for the first time running a laptop slide show in the field, without access to 120VAC. Hanks laptop computer is similar to the Centre laptop in terms of power consumption, at most 70 watts. We plugged the laptop into a

Canadian Tire Powerpack300 (coincidentally on sale again... normally \$140 on sale for \$70).

The Powerpack300 comes with a 14 ampour battery, a 300 watt 120 vac inverter (actually 240 watt continuous, 300 watt for up to 5 minutes and 480 watt surge), a light, two 120vac outlets and battery booster clamps. Not bad for an all in one package. Having just a battery pack and an external inverter leads to yet more cables and complexity that we can live without in the great dark outdoors.

The Powerpack300 manual says it should run a laptop drawing 25 watts for up to 3.5 hours. Our actual experience with the laptop constantly running on what is thought was 120vac (ie so the display was on brighter than if it were running only on its internal battery), was from 19:30-23:00.. or 3.5 hours. It's nice when theory meets up with reality once in awhile. In addition, we were powering a red compact fluorescent bulb in a troublelight, of approx 10 watts for local area lighting, for over 4 hours.

The unit is a little bulky around the middle, but aren't we all? :) It's actually a little too bulky to mount on the base of our 20cm Skywatcher dobsonian, so I am in search of another model that is a little bit smaller. Recommended!



Donation Report

Kevin Kell, Treasurer

We would like to take this time to say thank you to all of our members who have made donations to the RASC-Kingston Centre. Donations can be targets on request by the donor to any specific fund (Observatory Fund, Special Projects Fund, Reserve Fund, Fall'N'Stars Fund, Banquet Fund or into general operations). By default, donations go into the Observatory Fund.

Ray Berg
Gerry Cyr
Susan Gagnon
Kim Hay
Ruth Hicks

Kevin Kell
David Maguire
David Patterson
Robert Powers

(Yarker), Valerie Engle (Kingston), Nicholas Farkas (Glenburnie), Lisa Galuga (Seeley's Bay), Lindsay Geoffrey (Bath), Karen Gladu (Bath), Hannah Glow (Kingston), Luc LeBlanc (Kingston), Kevin MacLellan (Kingston), Tanis McDivitt-Vandermolen (Kingston), Dave Mitchell (Kingston), Angie Reed (Kingston), Marie Warner (Kingston), Ron Wood (Kingston)

Our 2006 Fiscal Year starts in October 2005 and ends in September 2006.
To date we have received \$523 in donations.

Fund Report:
2005 October + donations= ytd 2006 May 18
Observatory Fund: \$10,269 +\$523= \$10,792
Special Projects: \$1500
Reserve Fund: \$500
Fall 'N' Stars Fund: \$523
Banquet Fund: 0 (resets each year) +\$232= \$232

2006 April: Jose-Gregorio Maza L (Kitchener)

2006 May: John Crossen (Buckhorn)

Current (2006 May 18) membership: 147

The Kingston Centre of the Royal Astronomical Society of Canada

Newsletter Submission Info:

I can take most common formats, although I prefer plain text. Pictures should be sent as image files in attachments separate from the articles. Please avoid the use of capitals, asterisks etc for formatting, as I use the publishing software's formats for this kind of emphasis.

E-mail: angle@personainternet.com
Post: Doug Angle,



Welcome New Members!
By Kevin Kell, Treasurer

I thought it was past time to recognize our new members and share that with the rest of the Centre.

2005 October: Carl Croy (Kingston), Larry Livesey (Kingston), Bruce Paisley (Inverary), Brian Stengele (Kingston), Carl Vanderlinden (Kingston)

2005 November: Rick Bacvar (Timmins), Peter McMahon (Port Hope)

2005 December: James Lolley (Gananoque)

2006 February: Michael Bell (Bath), Wayne Partridge (Kingston)

2006 March: Bernie Brandt (Kingston), Beverly Brandt (Kingston), Neal Bryen (Amherstview), Meghan Charters (Inverary), Dave Clark (Odessa), Joyce Davidson

2006 Publication Deadlines

For the month	Deadline
August	July 29
September	August 19
October	September 30
November	October 21
December	November 25
January 2007	December 16

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Kingston Cosmic & Events Calendar June and July 2006

By Kim Hay

For more detailed information, please refer to the **RASC 2006 Calendar** and the **RASC 2006 Observers Handbook**. Available from Kevin Kell or from National Office, <http://www.rasc.ca>

July Members Lunar Observing	first clear night beginning July 3 to July 10 9pm in the South Parking Lot of Lemoine Point C.A. Those on the Observing list will be informed. http://members.kingston/~rasc/indexsec.htm for directions.	July 31 Monday	Spica 1.3 degrees N of Moon 11:00 pm
July 3 Monday	Earth at aphelion (152,095,700 km)	August Members observing	Deep-Sky Observing at Nirvana Floating period: first clear night beginning Saturday, Aug. 19 to Tuesday, August 29.
July 3 Monday	First Quarter Moon 12:37	August 2 Wednesday	First Quarter moon 4:46
July 8 Saturday	Sky is the Limit Festival, 9:00-4:00 pm. City Park All day event	August 6 Sunday	Mercury at greatest elongation W (19 degrees)
July 8 Saturday	KAON Observing Session- Ellis Hall Queen's Observatory * 9:00 10:30 p.m.* for more information visit http://members.kingston.net/rasc/pubobs.htm	August 9 Wednesday	Full Moon 6:54
July 10 Monday	Full Moon 23:02	August 11 Friday	Markfest BBQ at Mark & Linda's house on the lake see http://members.kingston/~rasc/indexsec.htm for directions.
July 14 Friday	Regular Meeting Stirling Hall Theatre D 7:30 p.m. Guest Speaker: Guy Nason will be Speaking on IOTA- International Occultation Timings Association http://www.occultations.org/	August 12 Saturday	KAON Observing Session- Ellis Hall Queen's Observatory * 9:00 10:30 p.m.* for more information visit http://members.kingston.net/rasc/pubobs.htm
July 17 Monday	Last Quarter Moon 15:12	August 12 Saturday	Ceres at opposition and Perseid meteor peak 7:00 pm
July 20 Thursday	Crescent moon occults the Pleiades 4:00 am	August 15 Tuesday	Last Quarter moon 21:51
July 21 Friday	Mars 0.7 degrees N of Regulus, 10 pm.	August 19 Saturday	Mount Kobau Star Party, Osoyoos BC www.mksp.ca (through August 27)
July 21-22 Friday & Saturday	Belleville Centre has invited the Kingston Centre members to their annual Bon Echo days at group site #602. There is a park entrance fee, and a fee if you camp overnight	August 23 Wednesday	New Moon 15:10
July 25 Tuesday	New Moon 0:31	August 24 Thursday	Starfest, Mount Forest Ont www.nyaa-starfest.com (through August 26)
July 28 Friday	S.delta Aquarid meteor peak at 3:00 am.	August 24 Thursday	Saskatchewan Star Party, Cypress Hills www.rasc.ca/saskatoon (through August 27)
July 28 Friday	Stellafane Convention, Springfield VT www.stellafane.com (through July 29)	August 25 Friday	Nova East, Smiley's Provincial Park, NS halifax.rasc.ca/ne (through August 27)