

# AURORA



Volume 33, Number 1

The Royal Astronomical Society of Canada - Windsor Centre

Sept. 2007

## A Happy Birthday



**James Meredith**, long-time Windsor Centre member and Life Member of the Royal Astronomical Society of Canada, recently celebrated his Ninetieth Birthday. Jim is shown here chatting with Randy Groundwater at an Open House that was held honor of his birthday milestone at The Royal Canadian Legion Branch 255, Windsor, on Sunday, June 24th.

Jim, an enthusiastic amateur astronomer, for decades served faithfully on the Centre's Council, most notably perhaps as Librarian, and was also a familiar face at monthly meetings. Jim would always remind members about the importance of reading the Society's Observer's Handbook, and would give talks on its use.

Congratulations, Jim, and may you have many more birthdays to come!

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## Calendar of Events

### *Our next meeting...*

Tuesday, Sept 18th, 2007 7:30 p.m.  
at  
K of C Maidstone Recreation Centre  
10720 County Road 34 (Old Hiway 3)

### *Main Speaker... (Tentative)*

**Steve Pellarin**

### *Topic...*

**McNaught Comet**

**NOTE the NEW STARTING TIME**

### *Coming Events*

#### *Astronomical Events:*

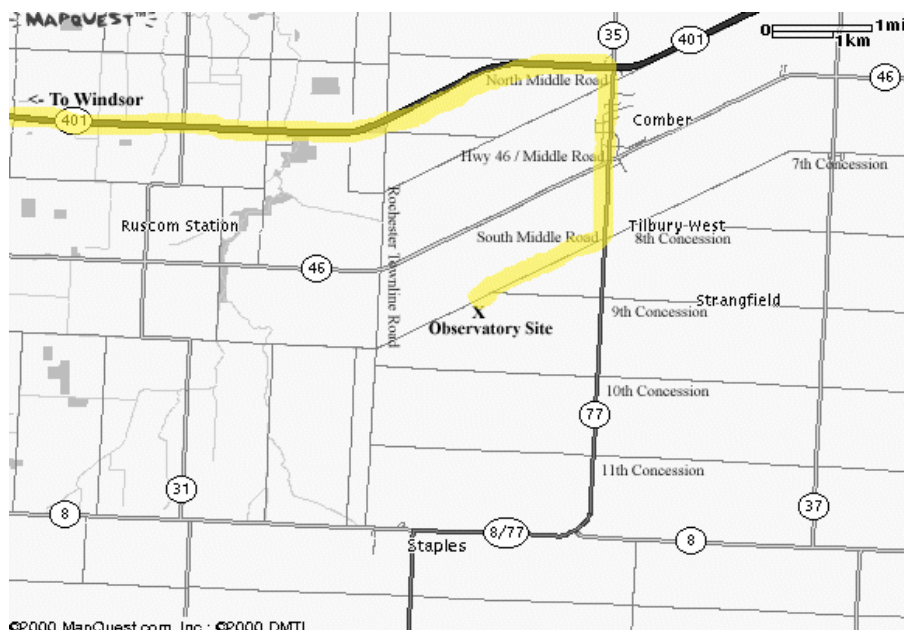
Sept 11 Partial Solar Eclipse 9am  
Sept 23 Autumnal Equinox 6am EDT  
Sept 23 Venus reaches mag -4.8 at 7pm  
Sept 26 Full moon  
Oct 09 Draconid meteor shower  
Oct 21 Orionid meteor shower  
Nov 17 Leonid meteor shower

#### *Observatory Open Houses:*

SATURDAY	Start	Moon age
September 15	8:00 p.m.	4 days
October 13	7:00 p.m.	2 days

#### **Next Council Meeting**

October 9th at Dave Panton's



### **Hallam Observatory Site**

**Directions:** The map above shows the Comber area and it includes the major highways (401, 77, 8 and 46) that are in the area of the observatory.

The most direct route from Windsor is "highlighted" on the map which is to take 401 East to Highway 77 South to South Middle Road. While on South Middle Road you go about 1 kilometer and just after the barely discernable point where Concession 9 joins it you will find the observatory site on the South side of the road.

If you hit the Rochester Townline Road (i.e. you come to a stop sign and have to turn left or right) you have gone too far.

## Submissions

Aurora is published monthly except for August. The October, December, February, April and June issues are full newsletters (usually 6 pages) with a number of member submitted articles. The November, January, March, May and July issues are short flyers (2 pages) with one short article. September is a dual issue with the full 6 page newsletter mailed just **before** the meeting and a flyer available **at** the meeting. Submitted articles can be of any length from a paragraph to multiple pages. I can scan pictures and/or diagrams (both prints and film) to support your article and the originals will be returned to you. Submission deadline is the 1st of the month.

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Ass't: Dan Anzovino

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## Membership

The Windsor Centre of The Royal Astronomical Society of Canada meets on the 3rd Tuesday of every month (except July and August) at the K of C Maidstone Recreation Centre. In addition to regular meetings the centre hosts a number of observing nights, a picnic and a December social. Members receive a copy of the Observer's Handbook, the RASC Journal (optional at extra cost), a subscription to SkyNews magazine and access to the Centre's library and telescopes.

Annual Membership Fees are Regular - \$55.00, Youth - \$34.25 and Life - \$2100.00. **\*\* NOTE New Rates \*\***

Contact Ken Garber at (519) 966-3478 or visit our website at: <http://www.rascwindsor.com> for more information.

**Lunar Eclipse August 28, 2007 5:51AM**  
**Canon 300mm f/4+1.4X > 420mm**  
**Photosby Paul Pratt**

1/8 sec f5.6 ISO800



12:33 am, 5:25 am and 5:53 am



# Comet Mira

NASA Article provided by Bert Huneault

August 15, 2007: Astronomers using a NASA space telescope, the Galaxy Evolution Explorer, have spotted an amazingly long comet-like tail behind a star streaking through space. The star, named Mira after the Latin word for "wonderful," has been a favorite of astronomers for about 400 years, yet this is the first time the tail has been seen.

Galaxy Evolution Explorer--"GALEX" for short--scanned the popular star during its ongoing survey of the entire sky in ultraviolet light. Astronomers then noticed what looked like a comet with a gargantuan tail. In fact, material blowing off Mira is forming a wake 13 light-years long, or about 20,000 times the average distance of Pluto from the sun. Nothing like this has ever been seen before around a star.

"I was shocked when I first saw this completely unexpected, humongous tail trailing behind a well-known star," says Christopher Martin of the California Institute of Technology. "It was amazing how Mira's tail echoed on vast, interstellar scales the familiar phenomena of a jet's contrail or a speedboat's turbulent wake." Martin is the principal investigator for the Galaxy Evolution Explorer, and lead author of a Nature paper appearing today to announce the discovery.

Astronomers say Mira's tail offers a unique opportunity to study how stars like our sun die and ultimately seed new solar systems. Mira is an older star called a red giant that is losing massive amounts of surface material. As Mira hurtles along, its tail sheds carbon, oxygen and other important elements needed for new stars, planets and possibly even life to form. This tail material, visible now for the first time, has been released over the past 30,000 years.

"This is an utterly new phenomenon to us, and we are still in the process of understanding the physics involved," says co-author Mark Seibert of the Observatories of the Carnegie Institution of Washington in Pasadena. "We hope to be able to read Mira's tail like a ticker tape to learn about the star's life."

Billions of years ago, Mira was similar to our sun. Over time, it began to swell into what's called a variable red giant - a pulsating, puffed-up star that periodically grows bright enough to see with the naked eye. Mira will eventually eject all of its remaining gas into space, forming a colorful shell called a planetary nebula.

The nebula will fade with time, leaving only the burnt-out core of the original star, which will then be called a white dwarf.

Compared to other red giants, Mira is traveling unusually fast, possibly due to gravitational boosts from other passing stars over time. It now plows along at 130 kilometers per second, or 291,000 miles per hour. Racing along with Mira is a small, distant companion thought to be a white dwarf. The pair, also known as Mira A (the red giant) and Mira B (the white dwarf), orbit slowly around each other as they travel together through the constellation Cetus 350 light-years from Earth.

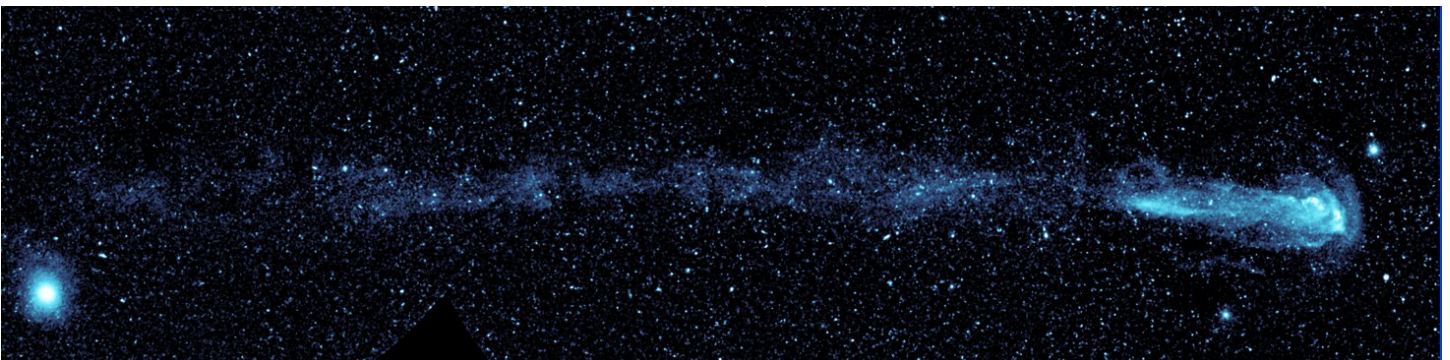
In addition to Mira's tail, GALEX also discovered a bow shock, a type of buildup of hot gas, in front of the star, and two sinuous streams of material coming out of the star's front and back. Astronomers think hot gas in the bow shock is heating up the gas blowing off the star, causing it to fluoresce with ultraviolet light. This glowing material then swirls around behind the star, creating a turbulent, tail-like wake. The process is similar to a speeding boat leaving a choppy wake, or a steam train producing a trail of smoke.

The fact that Mira's tail only glows with ultraviolet light might explain why other telescopes have missed it. GALEX is very sensitive to ultraviolet light and also has an extremely wide field of view, allowing it to scan the sky for unusual ultraviolet activity.

"It's amazing to discover such a startlingly large and important feature of an object that has been known and studied for over 400 years," says James D. Neill of Caltech. "This is exactly the kind of surprise that comes from a survey mission like the Galaxy Evolution Explorer."

Credit: Science@NASA and Marshall Space Flight Center

Courtesy of the National Oceanic and Atmospheric Administration Central Library Photo Collection



## 2007 Picnic—photos by Steve Mastelotto and Ken Garber



**JUST ARRIVED!!!**

The  
2008 RASC  
Calendar

Get yours now.  
Supplies are limited

Only \$14.00  
at the meeting



## A Little Fund Raising

Got any Canadian Tire money lying around that you'd like to get rid of?



Why not donate them to the Centre?

To date we've collected more than \$85 and of that, about \$65.00 has been spent on trees planted on the grounds, oil and gas for cutting the grass, chain lube for the dome and some bug spray.

Bring them along to any meeting and drop them off at the treasurer's table, and they will be put to good use.

## Time to Renew ??

Don't forget that you can renew your membership at the treasurer's desk, by snailmail to the National, or online at the RASC 'store' at

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

And don't forget that the printed Journal is now optional extra. Look for the option on your form.

## Time to Renew , too

If you are a subscriber of Sky and Telescope and have done your renewing through the Centre, you can now renew directly with S&T. You need not send your form and payment to the Centre.

If you are not a subscriber but wish to be, send your first payment to the Centre Treasurer for forwarding to S&T and you'll be able to renew directly after that.

## For Sale

### FOR SALE

6 inch **Meade Starfinder** Reflecting Telescope with Equatorial Mount. Package includes:

1 - Meade Multicoated 9mm eyepiece

1 - " " 12mm "

1 - " " 15mm Super Plossl eyepiece

1 - " " 25mm eyepiece

1 - 2x Telenegeative Amplifier (Barlow), 1 - Red flashlight, 1 - Instruction Manual

Price \$550.00 (new price)

If you are interested contact John Murray at 519-944-7052 or email at [jmurray100@cogeco.ca](mailto:jmurray100@cogeco.ca)

### FOR SALE

**Celestron Nexstar 114.** It is 2 years old and only used once. Note this is a Goto computerized telescope and he is including a 25mm eyepiece.

Contact Alan King at 519-326-1361 or at [jackall2@cogeco.ca](mailto:jackall2@cogeco.ca)

### FOR SALE

**Identiview 3 inch solar filter by J.M.B. Industies.** \$150.00

Contact Ken Rounq at 519-738-3479

### FOR SALE

**Skywatcher** reflector telescope in new condition having had very little use. It is a 150mm diameter tube and mirror and is 650 mm in length. It has 10mm and 25mm objectives with a 2x Barlow, a moon filter and a skylight filter. It is on an aluminum tripod with an equitorial mount and has a red dot finder scope.

Price - \$250.00. If interested, please contact Stuart Kelch by e-mail to [skelch@cogeco.ca](mailto:skelch@cogeco.ca)