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BULLETIN OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

February 2007 - Volume 2, Number 2 **Andrew Oakes, Editor**

News @ RASC.ca

Death of an Email Address

The RASC Web Team is saddened to report the recent demise of its email address, **webmaster@rasc.ca**. Webmaster (as he was known to his friends) passed away after a lengthy battle with thousands upon thousands of spam emails that rendered the address virtually useless.

In its place is a new Web Team Request Form available on every page of the RASC national Web site. By clicking on the link "Contact the Web Team," you can send a detailed message to the RASC web team without creating the risk of spam. Feel free to pass along your suggestions, comments and corrections so that we can help to keep your national Web site up-to-date and current.

2007 General Assembly -- Astronomy Roundup in Calgary

March 31, 2007 is the deadline for abstract submissions to be sent for consideration as possible presentations at the 2007 RASC General Assembly in Calgary, Alberta. We invite you to submit a proposal for a paper or poster to be presented at the RASC GA during Astronomy Roundup 2007 [1] in Calgary, June 28 to July 1. The theme of the conference is *"Astronomy in Our Backyards,"* so presentations describing your observing programs and results are particularly apt. The proposal deadline is **March 31**. You will be notified by April 30 if your paper has been accepted as an oral paper or a poster.

Submit your paper or poster proposal to: AR2007@shaw.ca [2]. See you in Calgary!

Sky in February 2007

Gary Boyle (Ottawa) offers his monthly heads-up on what can be viewed throughout our Northern February nights. For details, see www.rasc.ca/news/The_Sky_This_Month_-_February_2007.shtml [3]

Former Centre President Dies

Mary Anne Harrington, former President of the Toronto RASC Centre from 1994-97 has died from cancer. In response to the sad news, RASC National President **Scott Young** wrote: “I recall Mary Anne from when I first joined National Council in the early nineties – she was incredibly helpful to me, and just a great person. She'll be missed.” **Peter Jedicke**, a RASC National Past President added: “I only met her a few times, but I remember how enthusiastic and helpful she was.” A visitation and memorial service were held on February 7, 2007. For background on **Mary Anne**'s contributions to the Toronto Centre, visit: www.toronto.rasc.ca/content/Harrington.shtml [4].

Supernova 2007R in UGC 4008

Paul Gray (Moncton) and **Tim Puckett** (Puckett Observatory, a private observatory in the North Georgia mountains) report the discovery of an apparent supernova (magnitude 16.9) on an image taken with a 0.35-m reflector at Ellijay, Georgia, on January 26, 2007, 10 UT in the course of the Puckett Observatory Supernova Search. The new object is located at R.A. = 07h46m37s.53, Decl. = +44°47'22".1 (equinox 2000.0), which is 1".9 west and 3".9 south of the center of UGC 4008. For the discovery impage click on www.rochesterastronomy.org/supernova.html#2007R [5].

FLASH: Watch for an item in the March 2007 *Bulletin* for an announcement of yet another discovery - SUPERNOVA 2007U - news of which just came in [co-discoverers **Jack Newton** (Victoria) and **Tim Puckett**].

Black Eye Galaxy

Black Eye Galaxy (M64)

Bob Olson (Ottawa) took this photo on the right of the Black Eye Galaxy (M64) with a Celestron 9 1/4 inch Schmidt-Cassegrain telescope, mounted on his AP900 mount. He used a Starlight Xpress SXV-H9 CCD camera, and took a total image exposure of 3.2 hours, comprising of 72 minutes of luminosity (L), and 40 minutes of each red (R), green (G) and blue (B). The images were processed with MaxIm DL software.

Mike Earle (Ottawa Centre's webmaster) reported on the photograph in the June 2006 edition of *AstroNotes*, the Ottawa Centre's newsletter. “M64 is a lovely object to look at through the eyepiece. Even through a modest 6-inch telescope, you can see its central "black eye" structure,” wrote Earle.

“The object is best viewed in Spring when it is at a high elevation as seen from the Ottawa area.... It is postulated that this galaxy is a result of a collision between two galaxies, which might have created the large dust lane that creates the Black Eye effect”, he noted.

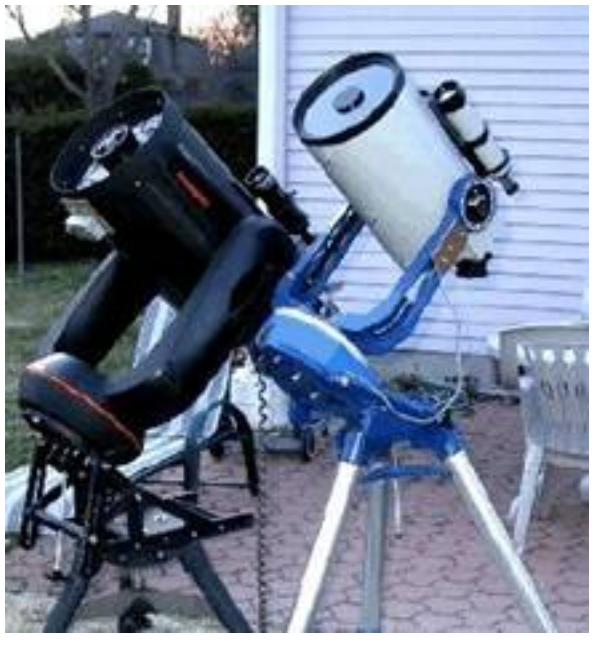
>The galaxy is approximately 17 million light years from us. For the full article, titled "*The Black Eye Galaxy (M64) - Image by Ottawa RASC Member Bob Olson*," click on at www.ottawa.rasc.ca/astronotes/2006/05_jun/05_jun.html [6] and then scroll down to the bottom of the page.

Old Friend

The retirement of an aged, hard-working and trusted telescope can bring back many fond memories of nights learning, searching the clear skies and observing with awe the wonders of the Universe. The May 2006 issue of Ottawa's *AstroNotes* tells a tale of just such a touching event.

"As for selling the scope, it has far too much sentimental value for me to even consider that. One evening, I might take the old scope outside and take it through "nostalgia lane," remembering all the amazing celestial wonders I saw in its heyday. Those memories will always be a part of me", wrote the owner.

The telescope has been replaced with a new one (see photo). For the complete story, click on www.ottawa.rasc.ca/astronotes/2006/04_may/04_may.html [7] and scroll down three-quarters of the way to *The Retirement of an Old Friend*.



The old Criterion Dynamax 8 is the grey-blue telescope on the right. It is seen beside the new NexStar 11 GPS

Surplus National Library Stock

The RASC National Library and Archives are winnowing out materials deemed surplus. Bound publications and other items are being offered on a priority basis to RASC Centres and members. For a listing of materials, see www.rasc.ca/ca/news/article_157.shtml [8].

The distribution process will be as follows:

- Items culled and removed from the library collection will be offered first to RASC Centres, and second to individual members
- Where items are requested by more than one qualified applicant, a silent auction will be held
- All purchasers are responsible for the cost of shipping
- A silent auction fee will be charged where applicable

If you are interested in any items, please contact **Bonnie Bird** at National Office: nationaloffice@rasc.ca [9] or (888) 924-RASC (7272) no later than the request closing date of February 28, 2007.

➢ RASCals Highlights

Comet McNaught, Black Holes, Moon's Desctruction and Snakes - some of the topics on the RASC Discussion List

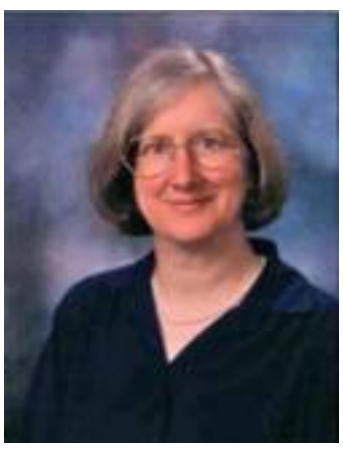
Comet McNaught

The big subject of discussion on the RASC List from December 2006 and into January 2007 was the journey of Comet McNaught through our Solar System. When **Terry Trees** arrived at the Wagman Observatory on January 8, 2007, he wrote to List members that, “Tom Reiland and Flacc Stifel were using the Brashear 11" Refractor to look at it. Considering that the comet was only 4 degrees above the horizon and the wind was gusting to at least 25 MPH, the scope gave a remarkable image. The comet's coma and inner tail were easy. . . ." Tom said he could see it naked eye. And he was right; it was easy if you knew where to look. "I looked straight down the top of the scope tube and there it was . . . tail projecting to the upper right. Very thin and bright, even in the yellow-orange part of the sky.”

Hungry Black Hole

Astronomers believe they have detected a black hole munching on a star using the photometric technique. Essentially what is being observed is so faint, that the best way it can be done is measuring the varying intensity of just a single pixel with time. What is being detected is the UV emission that a theoretical model predicts would occur if a black hole did disrupt a star. The actual science paper (a pre-print, *Ultraviolet Detection of the Tidal Disruption of a Star by a Supermassive Black Hole*) can be seen in PDF format at arxiv.org/pdf/astro-ph/0612069 [10]. List member **Jeff Dever** notes there are images on page 9 of the paper, "only a few pixels in size, intensity only (black and white), and extremely noisy."

Moon to Disintegrate



Professor Lee Anne Willson

When the Sun enters the red-giant phase in around 5 billion years it will swell until its distended atmosphere reaches out to envelop the Earth and Moon. According to **Lee Anne Willson** of Iowa State University, the Sun's mutation into a red giant is likely to ensure the Moon ends its days the way it began: as a ring of Earth-girdling debris having been torn to pieces and scattered to form a spectacular 37,000-kilometre Saturn-like ring of debris above Earth's equator.

Professor Willson's idea about the Moon's demise is an unpublished byproduct of her research into Earth's fate in the face of an expanding sun. It appeared in any an article by **David Powell** of *SPACE.com* (click on edition.cnn.com/2007/TECH/space/01/22/moon.destiny/index.html [11] for the story titled “*Earth's moon destined to disintegrate*”). One of her better known quotes is: “Dust, lowly dust, plays a very important role in both the birth of solar systems and the death of solar systems” (thinkexist.com/quotes/lee_anne_willson/ [12]).

More detail on Professor Willson's thoughts about the fate of the Earth itself can be found in a semi-popular talk co-presented at an AAAS meeting in February 2000 titled “*Miras, Mass-Loss, and the Ultimate Fate of the Earth*” (www.public.iastate.edu/~lwillson/FuturSun.pdf [13]).

Snakes and Spiders

Roger Hill (Hamilton) had just received confirmation of his registration for this year’s 29 Annual Texas Star Party, May 13 – 20, 2007, near Fort Davis, Texas. A veteran of other star parties, he noted: “This is the first time I've been camping in a desert environment, however,” and he asked his fellow colleagues:

“Does anyone have any advice whatsoever on how best to prepare myself and equipment to take advantage of some of the finest skies available in North America?”

Good advice followed as well as some ribbing. Cautioned about, dust, wind, deadly snakes and tarantulas, one list member also gave the following advice: “Remember to always check your tent and sleeping bag carefully before crawling in, zip your tent tightly behind you, and never, never, never put your boots on before giving them a good shake and a careful visual inspection first.”

Another well-read member replied with the latest assessment from a reputable source, “This just in - from the February issue of the *National Geographic* (NG) magazine re: Big Bend Texas,” he wrote. According to NG, “It's a place so untamed that if something doesn't bite, stick, or sting, it's probably a rock." One member with tongue-in-cheek advised: “Stay home! (If you're going it's sure to be cloudy).” On advice of how to plan one's observing sessions, see *Steps to a Successful Observing Session* at spacsun.rice.edu/~has/PlanningYourObservingNovember2006.ppt (2.9 MB) [14]. Here you will also find a handy checklist for an observing trip.

The RASCals email list is the RASC's town hall where members from across the country gather to chat about astronomy in general. To subscribe to this member-focused forum, visit www.rasc.ca/discussion [15].

➢ Canadian Astronomy

Physics of Planet Formation

Planetary formation continues to be a subject of keen interest, especially among those who follow the ongoing discoveries of extra-solar planets.

As a 2005 doctoral student in the Graduate Department of Astronomy and Astrophysics, University of Toronto, **Isamu Manuel Matsuyama** submitted his completed doctoral dissertation titled *Planet formation: protoplanetary disk removal and rotational stability of planets*. In Part I of his 192-page thesis, Matsuyama discusses:

- Evolution of protoplanetary disks under the influence of viscous evolution;
- Photoevaporation from the central source;
- Photoevaporation by external stars; and
- The consequences for planet formation

An origami "paper quilt" titled Planet in the Wind of a Dying Star created by Professor Lee Anne Willson, 2004

In Part II, he investigates the true polar wander (TPW) rotational stability of planets. He revisits the classic problem of the long-term rotational stability of planets in response to loading, and explores the time-dependent (rather than the equilibrium fluid limit) rotational stability of planets by considering the example of an ice-age Earth. To download a PDF version of the dissertation (publication date November 2005), click on www.astro.utoronto.ca/theses/theses97--.html [16]. Enjoy the read.

Who Speaks For Terrans?

A leading figure in preparations for possible future contact with extraterrestrial intelligence, **Michael**

Michaud has published a book titled *Contact with Alien Civilizations Our Hopes and Fears about Encountering Extraterrestrials*. Michaud served as Director of the U.S. State Department's Office of Advanced Technology and as Counselor for Science, Technology, and Environment at the American embassies in Paris and Tokyo.

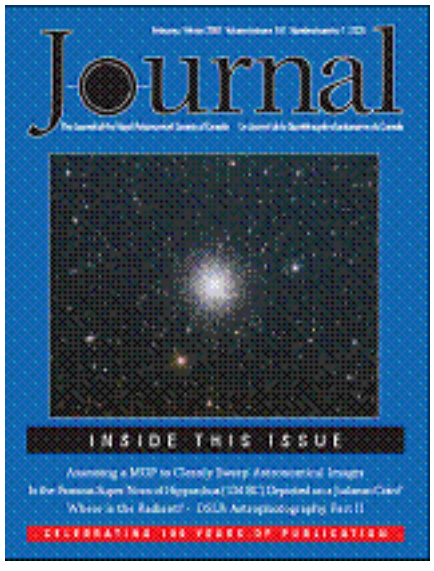
He is chairperson of working groups at the International Academy of Astronautics that consider this topic. See www.spacedaily.com/reports/Who_Speaks_For_The_Terrans_999.html [17] for more details and *Ten Decisions That Could Shake The World* www.setileague.org/iaaseti/decision.pdf [18]. Michaud has published more than 30 articles and papers on the implications of contact with alien civilizations.

Metres and Centimetres

The Moon is now on the metric system. NASA has decided to use metric units for all future lunar operations. See full story at science.nasa.gov/headlines/y2007/08jan_metricmoon.htm?list965206 [19]. Remember the feet/metres snafu a few years ago with the Mars spacecraft that vanished?

The *Journal* of the RASC

The February 2007 issue of the *Journal* is now available electornically on the RASC web site. Feature articles include:



- *Assessing a MOP to Cleanly Sweep Astronomical Images*
- *Is the Famous Nova of Hipparchus (134 BC) Depicted on a Judaean Coin?*
- *Where is the Radiant?*
- *DSLR Astrophotography, Part II*

There are also columns dealing with *What is a Planet?*; *Hubble's Variable Nebula*; *Starting Out: Buying a Telescope*; *A Tale of Three Asteroids*; and the *Transit of Mercury*.

To view an e-version of the *Journal*, click on:

- High Resolution Version [20] (7.7 MB)
- Low Resolution Version [21] (1.4 MB)

Access requires the user name "jrasc2007" and the password "brightstar".

Collector's Edition

Just a reminder that the December 2006 issue of the *Journal* is a special "collector's" edition, celebrating the 100th year of publication. Extra paper copies are available at a modest cost from the National Office. The issue is eminently readable and chock full of images.

To view an e-version click on to www.rasc.ca/currentjrasc/2006-dec-hr.pdf [22]. Access requires the same

username - “jrasc2007” and password - “brightstar” as above.

Quill & Parchment

Do you have an interest in writing as well as standing under the the night sky?

The RASC *Journal* is looking for writers to bring the world of astronomy to the Society and the world. “The Universe is our playground, and we'll consider articles on all subjects related to astronomy,” says Editor **Jay Anderson**. Some areas that are of particular interest include the following topics:

- Home-built observatories
- Trips to other parts of North America and the world for astronomical purposes
- Reports on amateur conferences
- Home-made observing aids, observations of particular objects (such as Comet McNaught, Stephans Quintet, Venus in conjunction, or an 18-hour-old Moon)
- Home-made observing aids
- Hints on talking to the public and educators
- Accounts of soul-rewarding nights under the Milky Way

The *Journal* is also seeking your photographs and drawings — from piggy-back to night-long exposures. Popular or technical articles are equally welcome.

If you have something to offer, send it along to **Jay Anderson** editor@rasc.ca [23]. “We'll help immortalize — at least for a few hundred years — your work,” he said.

Dates to Remember

- **February 28, 2007** - Closing date for request of surplus National Library materials
- **March 3, 2007** - Total Lunar Eclipse (Canada east of Alberta)
- **March 10, 2007** - National Council Meeting (Toronto)
- **March 31, 2007** - Submission deadline for abstracts for 2007 General Assembly
- **April 21, 2007** - Draw Date for at Saskatoon Centre’s Raffle
- **April 22, 2007** - International Astronomy Day
- **April 30, 2007** - Notification of accepted papers/posters for 2007 General Assembly
- **June 28 - July 1, 2007** - General Assembly (Calgary) [1]

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[2] mailto:AR2007@shaw.ca
[3] https://www.rasc.ca/news/sky-month-february-2007
[4] http://rascto.ca/index.php
[5] http://www.rochesterastronomy.org/supernova.html#2007R/
[6] http://ottawa-rasc.ca/astronotes/2006/05_jun/05_jun.html
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[12] http://thinkexist.com/quotes/lee_anne_willson/
[13] http://www.public.iastate.edu/~lwillson/FuturSun.pdf
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[16] http://www.astro.utoronto.ca/theses/theses97--.html
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