

Event Horizon

March 2004

Volume 11 Issue 5

Chair's (2004 WSP) Report

Over 700 tickets were sold for the 2004 Winter Star Party but, true to form, travelling observers Lou and Ollie Darcie were 15th and 16th through the gate. That feat not only ensured a prime spot for the week but also two of the commemorative t-shirts awarded to the first twenty people into the 20th edition of the popular Florida Keys event.



That was only the first of several extras provided this year by the Southern Cross Astronomical Society. As entrants filed in and set up, a 3-piece band entertained with contemporary soft-rock hits then, on other afternoons, steel drum combos added a tropical flavour. Of all the elements that make the WSP unique; palm trees, turquoise seas, sand and seabirds; only the heat was missing. Clouds dominated the first three days and, when we finally saw stars on Wednesday night, we found ourselves wearing the winter gear we'd left Canada in! By Thursday, however, sunblock and dew heaters heralded the return of the Keys' famous clear and steady skies.



Though not all of the seminars focused on astro-imaging most did, so, rather than spend precious days indoors, Gail and I chose to accompany the Darcie's to Key West and also on a fishing charter where sea trout, bluefish, grouper, and snapper were reeled in then taken to a local restaurant for a fresh fish feast. At night, we did just as well bagging galaxies in Virgo and thought our Messier list complete, until I realized we'd missed M83 – The Southern Pinwheel. Even down South, that face-on spiral rises late in February, but, it's quite doable in Ontario in May, so we'll hunt it down then.

By Thursday, Floridian friends Charlotte Bilder and Sue Prill had joined our camp and the "Key Lime Pie Gang" was complete. That was just one of many such desserts enjoyed while waiting for Attila Danko's Clear Dark Sky forecast to happen. Friday brought the much-anticipated door prize giveaway preceded by various awards for kid's projects and adult's photographic prints – one of which was a Jupiter image by Steve Barnes whom we hadn't even seen in the crowd. To mark the Star Party's twentieth anniversary,

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HAA Pins



To commemorate our 10 year anniversary, a special pin has been created. You can order one of these beautiful pins for \$6 at the next meeting or by contacting
membership@amateurastronomy.org

Eye Candy



Here's an image of Jupiter from the February 29th. Credit goes to Doug Welch, Shelley Watson, Kevin Hobbs and myself (Bob Botts). The image was acquired with my telescope at Kevin's new "Hobbservatory".

Also, check out this wonderful animation of Jupiter at:
<http://home.cogeco.ca/~hobbservatory/jupiter%20ani.gif>



Event Horizon is a publication of the Hamilton Amateur Astronomers (HAA).

The HAA is an amateur astronomy club dedicated to the promotion and enjoyment of astronomy for people of all ages and experience levels.

The cost of the subscription is included in the \$25 individual or \$30 family membership fee for the year. Event Horizon is published a minimum of 10 times a year.

HAA Council

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the Grand Prize was a “binary” affair consisting of a Meade 8” LX 90 and JMI’s new 6” RB-6 reverse binoculars. A couple of years ago, Charlotte had won a Meade ETX 90 at this event so we thought her pretty lucky when she claimed a Scopetronix tripod bag, but when her number was called for the JMI grand prize we were just amazed!



Needless to say, after the complimentary steak and chicken barbeque, we spent Friday night test driving the (\$3,000 US) binoscope. Even though the original eyepieces temporarily went missing, and we improvised with mis-matched 25mm and 26mm ep’s, the pair of 6” f/5 mirrors provided pleasant, contrasty, views. The NGC-Micromini digital setting circle unit was simple to configure yet was limited to bright stars and Messier objects. While the argument could be made that the software was for beginners, anyone who forks out that kind of dough is serious enough to want a full NGC catalogue. In fact, considering it has no motorized tracking capability, my opinion of the RB-66 is that it’s somewhat overpriced. Still, it performed very nicely and we thoroughly enjoyed playing with it.

Then, all too soon, the party was over. No-one wanted to leave but rain was on the way and keeping jobs was another reality. Come Sunday, participants

quietly stowed scopes, tents, and trailers and left Camp Wesumpkee with smiles and a week’s worth of memories that won’t soon fade away.

What did fade away was Glenn’s tan as the following week of cloud quickly restored his “winter colour”.

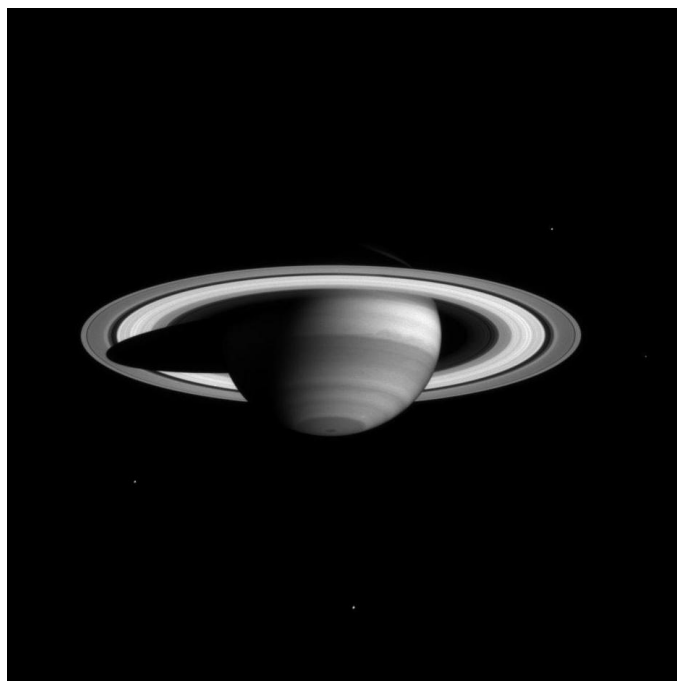
For more information on the Winter Star Party you can contact him at chair@amateurastronomy.org

Glenn invites your comments on these topics or any aspect of the club. He can be reached via chair@amateurastronomy.org



C.I.C.L.O.P.S.

The Cassini Imaging Central Laboratory for Operations has recently made this ultra-clear image of Saturn available.



<http://ciclops.lpl.arizona.edu/>

Upcoming Events

Event: Planet viewing party

Date: Saturday March 27th (alternate date Sunday March 28th) (weather permitting) at 7:30PM

Location: Hamilton Bayfront park

Details: Come see Mercury, Venus, Mars, Saturn, Jupiter, and the Moon. Members of the club will be bringing their telescopes. Free admission, all welcome.

Topic: Science Fair

Date: March 31 to April 3, 2004

Location: Mohawk College

Donations: The HAA will donate a pin and one year membership, also Jim Winger is donating a book, and Anthony Tekatch is donating an Electromagnetic Radiation Spectrum poster.

Web site: basef.mcmaster.ca/2004/

Description: Niagara Centre, RASC Annual Banquet

Date: April 03, 2004

Details: The Niagara Centre's Annual Banquet will be held on Saturday April 3, 2004. This year our guest speaker is Eric Dunn, the producer of the Cosmic Highway and Cosmic Odyssey television series. Eric joined the RASC at age 11 and is now a writer, illustrator and broadcaster who specializes in astronomy and the history of science. Eric presently lives in Vancouver. Eric's talk will be "Cosmic Highway: A Traveller's Guide".

The banquet will be held at the Delphi Hall in Niagara Falls. Tickets will be on sale at our general meetings. If you can't purchase your tickets in person, contact Joyce Sims at 905-262-5276 to make arrangements, or your order can be sent to our PO Box and your tickets will be held at the door for you..

Cost: \$45.00/person.

Mailing Address: Niagara Centre, RASC, PO Box 4040, St. Catharines ON, L2R 7S3

Website: <http://www.vaxxine.com/rascniag/banq2004.htm>

Contacts: John VanderBrugge and Donna Williams
www.rasc.ca/niagara

Event: HAA meeting

Date: Friday April 16, 2004 7:30PM

Location: Teamsters Local 879
460 Parkdale Ave. N.
Hamilton
(rear entrance)

From the QEW:

- take Burlington St. exit
- Parkdale is 1st st - turn left
- go past Tim Hortons & Rennie St. (it is not the building on the corner) on Parkdale - go to 2nd driveway on the left of red brick strip mall - around the back to the 2nd unit (teamsters sign)

From Hamilton downtown

- take Parkdale N. past barton St.
- go past Eastgate Ford
- its the first driveway past the Railroad tracks
- go to back of building - 2nd unit

From Centennial parkway

- take Barton St. W to Parkdale
- take Parkdale N. past barton St.
- go past Eastgate Ford
- it's the first driveway past the Railroad tracks
- go to back of building - 2nd unit

Admission is free. Everyone is welcome!



Deep Space Network 2-for-1 Sale!

By Patrick L. Barry

Call it a “buy one, get one free” sale for astronomers: Build a network of radio dishes for communicating with solar-system probes, get a world-class radio telescope with a resolution nearly as good as a telescope the size of Earth!

That’s the incidental bonus that NASA’s Deep Space Network (DSN) offers the astronomy community. Designed to maintain contact with distant spacecraft in spite of the Earth’s rotation, the large, widely spaced dishes of the DSN are ideal for performing a form of radio astronomy called “very long baseline interferometry” (VLBI).

VLBI produces very high resolution images of the cosmos by combining the output from two or more telescopes. The result is like having a giant “virtual” telescope as large as the distance between the real dishes! Since bigger telescopes can produce higher resolution images than smaller ones, astronomers need to use dishes that are as far apart as possible.

That need dovetails nicely with the DSN’s design. To maintain continuous contact with deep space missions, the DSN has tracking stations placed in California, Spain, and Australia. These locations are roughly equally spaced around the Earth, each about 120 degrees of longitude from the others—that way at least one dish can always communicate with a probe regardless of Earth’s rotation. That also means, though, that the straight-line distance between any two of the stations is roughly 85 percent of Earth’s diameter—or about 6,700 miles. That’s almost as far apart as land-based telescopes can be.

“We often collaborate with other VLBI groups around the world, combining our dishes with theirs to produce even better images,” says Michael J. Klein, manager of the DSN Science Office at NASA’s Jet Propulsion Laboratory. “Since our 70-meter dish in Canberra, Australia, is the largest dish in the southern hemisphere, adding that dish in particular makes a huge difference in the quality of a VLBI observation.”

Even though only about 1 percent of the DSN’s schedule is typically spared from probe-tracking duty

and scheduled for radio astronomy, it manages to make some important contributions to radio astronomy. For example, the DSN is currently helping image the expanding remnant of supernova 1987A, and Dr. Lincoln Greenhill of the Smithsonian Astrophysical Observatory is using the DSN dishes to explore a new way to measure the distances and velocities of galaxies.

And all this comes as a “bonus” from the dishes of the DSN.

To introduce kids to multi-wavelength astronomy, NASA’s website for kids, The Space Place, has just added the interactive demo, “Cosmic Colors,” at spaceplace.nasa.gov/cosmic.



This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Council meetings

All club members are welcome to attend the council meetings. Contact info@amateurastronomy.org for details.

WHO ARE HYPATIA'S DAUGHTERS?

Part I - Female astronomers to 17th c.

Rita Griffin-Short - rgshort@spectranet.ca

"A woman who...engages in debates about the intricacies of mechanics like the Marquise du Chatelet, might just as well have a beard; for that expresses in a more recognizable form the profundity for which she strives". Emmanuel Kant, 1764.

Who was Hypatia? Hypatia was a 4th c. A.D. philosopher, astronomer and mathematician. A Greek living in Alexandria, Egypt, with her father Theon. Much has been written about her, much of it myth. Her influence was resented by Alexandria's Christian archbishop, Cyril (later made a saint), that led to her brutal murder by a mob of Christians in 415. What is clear is that she and Theon were Neo-Platonists, humanists, perhaps Jewish to have generated such hatred. They were caught in ideological strife at a time when the Roman empire was in transition to Christianity, a Christianity that itself was undergoing factional strife. Ancient sources, e.g. Bishop Synesius, said she invented an astrolabe and a planisphere, but tangible evidence has long been lost. They lectured on art, science, philosophy. Hypatia has become a feminist symbol of patriarchal misogyny.

Females in science or philosophy, as it was called before the 19th century, are absent from the historical record between Hypatia and around the 17th century except in two or three cases: the wife (she hasn't a name) of Regiomontanus (Johann Mueller); Renee, Duchesse de Ferrare (1510-1575) who was interested in astronomical theories, and Tycho Brahe's sister, Sophia. It was not until the 17th century that females became more visible especially in Germany and Italy and to a lesser extent in France. Yet, in all instances they were barely tolerated by a hostile male community whose institutions of higher learning were closed to them. They could pursue their passion through the support of a father, brother or spouse. Much of the new astronomy was not done in universities but in private observatories, academies of science developed towards the end of the 17th century.

Tycho Brahe created Uraniborg, a scientific laboratory and observatory on the Island of Hven, in Denmark, in 1576. He and his sister Sophie, were kindred spirits. He called her Urania, his muse, and made sure she was well educated, teaching her astronomy and chemistry and languages. When she was fourteen she helped him observe and record the 1573 lunar eclipse. She married well, was widowed young and spent the remaining years

of her life studying astrology and concocting Paracelsian medications for friends and the poor and visiting her brother's observatory with friends. Her portrait shows us a lively face with large, dark, intelligent, eyes.

Another of Tycho's assistants was Elisabeth Paulsdatter, daughter of the apothecary Paul Thiisen, a prominent merchant at Elsinore. She was trained in chemistry, and Sophie's friend. She and her father likely were responsible for Sophie's interests in folk medicine and perhaps alchemy. Elisabeth left Hven under a cloud in 1596 and died two years later. Her father continued to visit Tycho, supplying him with the chemicals he needed.

Germany, in the 17th c. was home to a 'concentration' of women astronomers. Maria Cunitz (1610-1664) was taught astronomy, history, mathematics, medicine, ancient and modern languages, by her father, Heinrich, a Silesian physician. Her husband was an amateur astronomer who indulged her passion for astronomy. She observed and compiled tables of planetary positions, her object to simplify Kepler's planetary tables. They were published in 1650 as "Urania Propitia" along with commentary on the art and theory of astronomy. The book, novel for its time, could not have been written by a woman, it was said, it must have been her husband's. He had to confirm her authorship in a later edition.

Cunitz was not the only female to be launched by a father or spouse. Elisabetha Koopman (1647-1693), at age sixteen, married the fifty-two year old Johannes Hevelius of Danzig. From then on she observed by his side in their private observatory as they compiled a new catalog of fixed stars. They discovered four comets and were one of the first to observe a transit of Mercury. Many of the lunar features in "Selenographia" were named by them. A fire in 1679 destroyed much of their work and after Hevelius's death in 1687, she continued their work, publishing "Prodromus Astronomiae" and "Firmamentum Sobiescianum", dedicated to John Sobieski, King of Poland in whose honour the constellation Scutum is named. Their star catalogue of 1564 stars was the largest and the last to be made without the telescope.

In Nuremberg, Maria Clara Eimmart (1676-1707) was also taught by her father, an amateur astronomer, engraver and painter. She became expert at drawing comets, sunspots and lunar features, producing 250 detailed drawings of phases of the moon that were used for a new lunar map.

The most outstanding of the 17th c. female astronomers was Maria Margarethe Winkelmann (1670-1720). She also received her education at home from her father, a minister, and she also married an older man, the astronomer Gottfried Kirch who was thirty years older; Maria was his second wife. Kirch became astronomer of the Berlin Academy of Sciences where the best observational instruments were available to them. For ten years they took turns observing the night sky. One night she discovered a comet, not a routine event at that time, but Gottfried got the credit. While he acknowledged that Maria was the discoverer she never received her due.

When Gottfried died in 1710 his position became vacant. One might expect that Maria would be appointed his replacement. She petitioned the academy to appoint her and her son, Christfried, as assistants in charge of calendar production. One of the Academy's primary responsibilities was to produce the official calendar of German lands, a job Maria had been doing for several years. The Academy rejected her petition! Instead she was humiliated by the Academy Secretary who wrote that it had been 'burdened with ridicule' because the calendar had been prepared by a woman. Maria had one defender within the Academy, its President, Gottfried Leibniz, but the Academy appointed an inexperienced man who proved incompetent. It then appointed her son. She continued to work as an unpaid assistant. However, the hostility to her finally led to her being dismissed; thus ended her career.

As Margaret Wertheim notes, Maria Winkelmann's

fate was symbolic of the "collective fate of women in astronomy". They found ways to pursue and participate in the exciting new science of astronomy. As institutions developed, they were shut out from official, formal positions; handmaidens only...

Further Reading:

Alic, Margaret. "Hypatia's Heritage". A History of Women in Science from Antiquity through the Nineteenth Century. Beacon Press:1986.

Christianson, John Robert. "On Tycho's Island. Cambridge:2000.

Dzielska, Maria. "Hypatia of Alexandria". Translated by F. Lyra. Harvard:1995.

McAlister, Linda Lopez. Editor. "Hypatia's Daughters". Fifteen Hundred Years of Women Philosophers. Indiana Press:1996.

Schiebinger, Londa. "Has Feminism Changed Science?". Harvard:1999.

Wertheim, Margaret. "Pythagoras' Trousers". God, Physics, and the Gender Wars. Random House:1995.

Woolf, Virginia. "Three Guineas". Oxford's World's Classics:1992.

Next month: 18th-20th century astronomers, did they fare better?

Ad Photon Newsletter

'Photon' is a new bi-monthly astronomy magazine which is issued in PDF format.

Written by amateurs for amateurs, it focuses on topics that relate directly to amateur astronomy rather than more esoteric, armchair-type subjects or other non-practical-related topics.

In the magazine subjects have a more hands-on feel about them; experiences direct from one amateur to another.

'Photon' has been designed so that one page at a time fits on a reader's monitor. Many of the articles have hotlinks embedded in them so readers can jump straight to the relevant websites from within the magazine.

For more information and some sample pages, please visit: <http://www.nightskyobserver.com/Photon>

The first issue is free to download. Future issues will cost US\$3.00 each, or US\$15.00 for an annual subscription (subscribers get one issue free per year).

We are seeking article/photo submissions for future issues. There will be a small payment for any material used and the author will retain full copyright on any such material. We would also like to profile various societies and clubs (worldwide), so if you would like to provide some information regarding your society (or any major upcoming events), please do.

Thank you for your time.

Sincerely,

Gary Nugent "Photon" Editor

Here are some webpages dealing with those 2 new comets, especially C/2001 Q4 NEAT:

- http://skyandtelescope.com/observing/objects/comets/article_1037_1.asp
- <http://cfa-www.harvard.edu/press/pr409.html>
- http://www.space.com/spacewatch/comets_visible_040225.html
- <http://cfa-www.harvard.edu/cfa/ps/Ephemides/Comets/2001Q4.html>

Based on what is found here, Comet NEAT will cross the celestial equator on May 10th, and it will enter Cancer on May 13th near the Beehive.

Possible Comet nights are May 15th and alternatively May 22nd(2 days past new moon, crescent moon in evening sky).

by Ray Badgerow

WebWatch

Description: Satellite Pass Predictions

Site: <http://science.nasa.gov/>

Description: A Close Encounter with Jupiter

Site: http://science.nasa.gov/headlines/y2004/03mar_jupiter.htm

Description: Meridiani Planum: "Drenched"

Site: http://science.nasa.gov/headlines/y2004/02mar_meridianiwater.htm

Description: Black Hole Mayhem

Site: http://science.nasa.gov/headlines/y2004/18feb_mayhem.htm

Description: Can People Go to Mars?

Site: http://science.nasa.gov/headlines/y2004/17feb_radiation.htm

Description: Greenhouses for Mars

Site: http://science.nasa.gov/headlines/y2004/25feb_greenhouses.htm

Description: Microscopic Astronauts

Site: http://science.nasa.gov/headlines/y2004/23feb_yeastgap.htm



www.perceptor.ca



www.main-sequence.com



www.fireflybooks.com and Terence Dickinson



www.mec.ca



www.camtechphoto.com



O'Neil Photo & Optical Inc.

www.oneilphoto.on.ca



www.meade.com



www.skyoptics.net



kendrick-ai.com



www.skypieces.com



www.starlight-theatre.ca



www.khanscope.com

April 2004

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																										
4 DST begins	5	6	7	1 Science fair at Mohawk College	2 Science fair	3 Science fair Niagara Centre, RASC Annual Banquet																																										
11 Easter Sunday	12	13	14	15	16 HAA General Meeting at Teamsters	17 Observing Night																																										
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<p>For observing info, call Stewart Attlesey 827-9105, Rob Roy 692-3245, Glenn and Gail Muller 945-5050, http://amateurastronomy.org/events.php</p>																																																
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