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Roger Hill, Editor

Okay, so it's been a little cloudy (for most of us), but that didn't stop Gary Colwell from producing a very nice image of Mars...see the back page for it.

The biggest event this past month, though, was undoubtedly the meeting at Discovery Landing. It was a great evening. We came very close to running out of chairs!

For me, the evening started out fairly early, as our speaker, Paul Delaney, doesn't drive. I picked him up at a GO Bus stop at the 407 and Trafalgar Road. It was a drive of just a few minutes before we arrived at Discovery Landing, and we began to set up. Pauls presentation worked perfectly on my laptop, as did his USB controller, and the guys from Discovery Landing started setting up the tables and chairs, while we set up the projector. People started coming in, and Ev checked out her presentation, Gary tried out his new laptop, and I got a chance to meet a number of people who hadn't shown up for a long time, or who were first time visitors.

To a packed room, promptly at 8pm, we were off and running. With an absolute minimum of business, we went into the presentations. In last months Orbit, there was an article on the top five astronomy stories of the past ten years. The original list was actually the top ten. So, I went over the 10th through to the 6th.

Ev gave a presentation on Greek in the Round, about Orion. I was never particularly interested in mythology, so most of what Ev had to say was new to me. I suspect it was to a lot of people, too. She did a great job, and I hope it was the first of many. I know I'm really looking forward to the next one, no matter which constellation she chooses.

Gary, however, blew everyone out of the water with his presentation. He tackled this particular project with all the gusto he approaches everything he does. With the help of a lot of computer graphics, and a planetarium program, he produced a very polished talk. There were a few questions asked of him, in particular about his software, but for the life of me, I can't remember the answer.

Paul Delaney gave a wonderful talk on Understanding Mars. His students rate him very highly, and in an article in the Globe and Mail, he was rated as one of the top ten lecturers in Ontario. He certainly showed us why. It was not just his presentation that was great, but his grasp of the topic was extraordinary, too. York is a fine institution, and it's because they have people of the calibre of Paul Delaney on the faculty.

We held a raffle, and the prize winning ticket, drawn boy our guest speaker, as Laurel Grace. The prize was a Galileo-Scope, which I'd left at home. She said she can't make the February meeting, but she'll definitely be back for the March one.

And that was the general consensus...I was approached by a number of people asking for a brochure, or a membership form, but in the hullabaloo about making sure that our speaker had transportation, that the room was arranged properly, and all the other myriad little details that go into putting on a monthly meeting...we didn't have any.

We will have something this month, though...even if it's just a business card with our web site on it! Actually, for the talk I gave to the Flamborough Historical Society, I got some peel-off labels, ran a couple of sheets through my laser printer, and then stuck them to the backs of some of the IYA2009 photocards we have.

The night ended a little early for me, as I drove Paul Delaney home. It was a most enjoyable trip...it's not often you get a chance to chat with people like him for an extended period of time, and I took full advantage of the opportunity!

In fact, the only damper on the entire evening (with the exception of the weather) was the choice of venue for our after-meeting socializing.

I'd had lunch at the Queens Head pub just a couple of months ago, and thoroughly enjoyed it. It seemed like just the sort of hospitable place that would be ideal for us.

Consequently, I was quite disappointed to find that they closed the kitchen before 10pm on a Thursday, and only had some snacks.

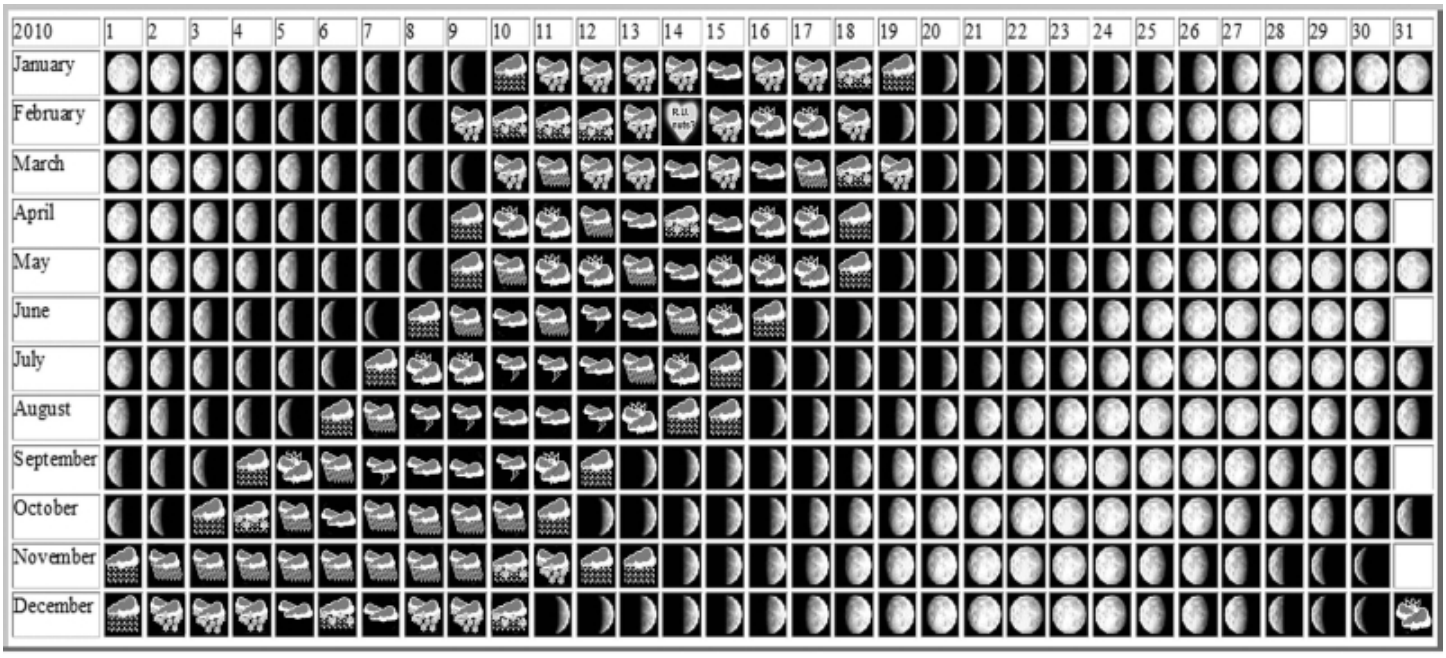
We have people who travel a fair distance to come to our meetings, sometimes coming straight from work, or other activities. It's essential that the place we go to have a reasonable selection of food to offer.

In the aftermath, and in the discussion that followed in the days after the meeting, a place kept being mentioned: Joe Dogs. It's on Brant Street, a little bit further up the street from the Queens Head, but still less of a drive than we used to have going to Kelseys or Crabby Joes in Stoney Creek. I had a delightful email conversation with Andrea Dodd, owner-operator of Joe Dogs at 531 Brant Street. She put us in their reservation book for 10pm, Thursday Feb the 4th. She said "We have a full menu until 2am every night so lots more than bar snacks!"

Lastly, the image below was sent to me by Derek Baker, and it was remarkably successful at predicting the conditions during January, although the cloudy period was much longer than just the time around the New Moon, there was no doubt about the essential truth to what it contained. So...I'm going to leave it there until such a time as it is essentially WRONG. Any bets as to how long it'll be there?

Clear skies, one and all,

Roger Hill
Orbit editor and President.



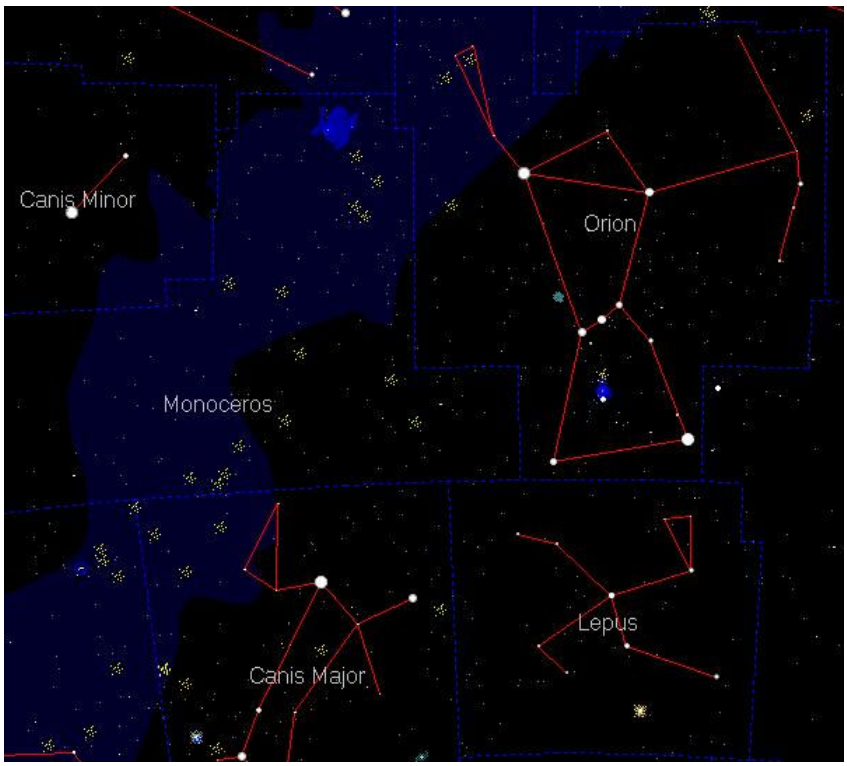
The Sky This Month - February 2010 By Gary Boyle, Ottawa

Chasing the Hare

The night sky as is a theatrical stage of mythological characters, unique stories of how they interaction with others. Amongst the wintry constellations is Lepus the Hare. Although Orion the Hunter is poised in battle with Taurus the Bull, he also liked to hunt our long eared friend.

Lepus is located directly below Orion and appears as a crooked cross of stars. Its members shine between third and fourth magnitudes. In area, Lepus takes up only 290 square degrees of sky – putting it in 51st position.

At the center of the asterism is magnitude 2.6 Alpha Leopris aka Arneb. Located an estimated 1,280 light years from the Sun Arneb is a class F supergiant star that would extend close to the orbit of Mercury if it replaced our Sun. Arneb's temperature lists at 7,000 degrees Kelvin and given its size, is some 13,000 times brighter than the Sun.



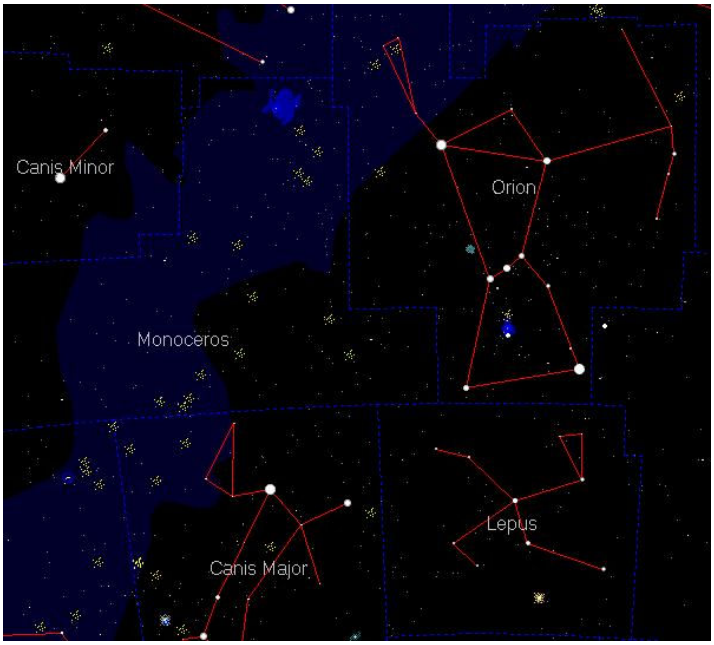
Just below Arneb is the Beta star called Nihal - a class G star like our Sun and shines a tad dimmer than Arneb at magnitude 3.1. This star has a companion only 2.5 arc seconds away. In fact, its magnitude has been observed to shift from seventh to eleventh, meaning it could be an eclipsing double. Nihal is 160 light years from us.

The Spirograph Nebula, catalogued as IC 418, is located about 2,000 light years away. It was on the list of objects for the Hubble Space Telescope to investigate. Only through the perfect eyes of the Hubble does the inner structure of this planetary nebula reveal itself. The fine woven detail is incredible and well deserves its name.

Astronomers are still trying to understand this internal, complex pattern. Only a few thousand years ago, this planetary was a Sun like star, shining with the rest in the night sky. However, as its valuable fuel was consumed, it became a red giant and eventually transformed to this amazing portrait that measures a third of a light year across itself. The remaining central neutron star is at magnitude 10.2 whereas the entire planetary is around 12th.

The only Messier object to reside within the constellation's boundaries is M79. Other than the fact, this cluster lies some 40,000 light years from us; it resides opposite the center of our Milky Way Galaxy. Globular clusters tend to live around a galaxy's nucleus like flies around a street light. By measuring its distance, astronomer calculate M79 is about 120 light years wide. At magnitude 7.7, this target can be located with simple binoculars.

If you are up to a bit of a challenge, I suggest NGC 1738 and 1739. These two seem to be overlapping together. NGC 1738 (the brighter of the two) is about 13th magnitude and the two occupy about an arc minute of sky.



The premiere galaxy belonging to Lepus is NGC 1964. This magnitude 10.8 spiral measures a bit more than six arc minutes long or a fifth of the full moon's width. It has delicate spiral arm structure and is a great target for astrophotography. To find NGC 1964, relocate Nihal that mentioned earlier in the article and move almost one and a half degrees southeast.

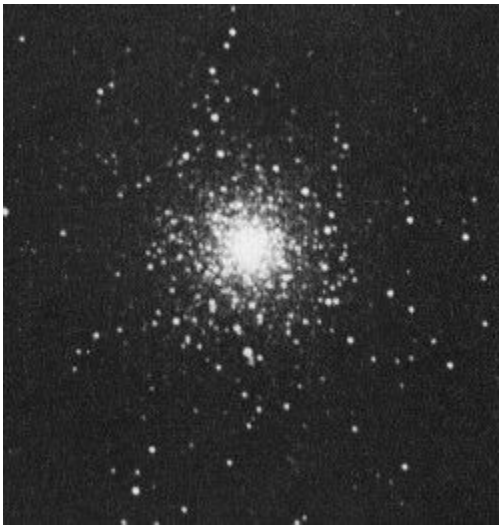
Mars is now visible all night long as it rises at sunset at the beginning of the month. At first glance through a telescope, the 14 arc second disk will reveal a dazzling, white north polar cap. At the south end is dark Mare Tyrrhenum. Good seeing will reward you in surface detail. Although this perihelion (closest approach) was nowhere near the 2003 approach, you should still give the red planet a chance.

Since Earth is closer to the Sun than Mars, we orbit quicker and are now overtaking Mars in the race. All this month you will notice Mars is moving westward (retrograde). On March 10th Mars will appear to stop this motion (stationary) and start moving eastward as our worlds keep separating. Our next perihelion will occur in March of 2012 but our distance will be 100 million kilometers, a million more than this event. The best show will be in July 2018 when the disk will be a respectable 24 arc seconds wide and our distance a lot shorter.

Saturn is now visible on the eastern horizon at 11 p.m. local time on the first of the month, 10 p.m. mid month and 9 p.m. at month's end. The marvelous rings are slowly coming out of its September 2009 edge-on view. The ring system is now inclined four degrees. On the early morning of February 3rd, Saturn will be nine and a half degrees north of the Gibbous Moon.

For those living on the east coast, try spotting the very thin 19 hour Moon on Valentine's Day night, and 23 hour Moon on the west coast. Be sure to also follow Venus and it scoots by Jupiter low in the west on the 15th, 16th and 17th. The two will be separated by about a full moon's width on the 15th, so get those cameras ready. The full Snow Moon will occur on the last day of February.

Object	Type	Magnitude	Coordinates
IC 418	Planetary nebula	12.0	RA:05h 27m 30s Dec:-12d 42s
M 79	Globular cluster	7.7	RA:05h 24m 30s Dec:-24d 33s
NGC 1738/39	Galaxies	13.0	RA:05h 01m 42s Dec:-18d 11s
NGC 1964	Galaxy	10.8	RA:05h 33m 24s Dec:-21d 57s



<—M79

NGC1964—>

Astronomical Musings—Gary Colwell

A **Edmund Burke, at age 15**

What grander idea can the mind of man form to itself than a prodigious, glorious and fiery globe hanging in the midst of an infinite and boundless space surrounded with bodies of whom our earth is scarcely any thing in comparison, moving their rounds about its body and held tight to their respective orbits by the attractive force inherent to it while they are suspended in the same space by the Creator's almighty arm! And then let us cast our eyes up to the spangled panoply of heaven, where innumerable luminaries at such an immense distance from us cover the face of the skies. All suns as great as that which illumines us, surrounded with earths perhaps no way inferior to the ball which we inhabit and no part of the amazing whole unfilled! System running into system, and worlds bordering on worlds! Sun, earth, moon, stars be ye made, and they were made!

B **Albert Einstein**

The most incomprehensible thing about the universe is that it is comprehensible.

Human beings, vegetables, or cosmic dust, we all dance to a mysterious tune, intoned in the distance by an invisible player.

C **Christopher Wren**

A time will come when men will stretch out their eyes. They should see planets like our Earth.

D **H. Jackson Brown, Jr. (from Life's Little Instruction Book)**

Lie on your back and look at the stars.

E **Galileo**

The chess-board is the world, the pieces are the phenomena of the universe, the rules of the game are what we call the laws of Nature, the players on the other side is hidden from us. In questions of science, the authority of a thousand is not worth the humble reasoning of a single individual.

To command the professors of astronomy to confute their own observations is to enjoin an impossibility, for it is to command them to not see what they do see, and not to understand what they do understand, and to find what they do not discover.

F **Arthur C. Clarke**

Two possibilities exist: Either we are alone in the Universe or we are not. Both are equally terrifying.

When the Sun shrinks to a dull red dwarf, it will not be dying. It will just be starting to live and everything that has gone before will merely be a prelude to its real history.

G **Nicholas Copernicus**

Finally we shall place the Sun himself at the center of the Universe. All this is suggested by the system of procession of events and the harmony of the whole Universe, if only we face the facts, as they say, "with eyes wide open."

H **Arthur Koestler**

In my youth I regarded the universe as an open book, printed in the language of equations, whereas now it appears to me as a text written in invisible ink, of which in our rare moments of grace we are able to decipher a small segment.

I **Peter de Vries**

The universe is like a safe to which there is a combination, but the combination is locked up in the safe.

J **Dr. Beverly Crusher, from Star Trek**

If there is nothing wrong with me, maybe there's something wrong with the universe.

Match the Quote(s) from the previous page with the image of the author

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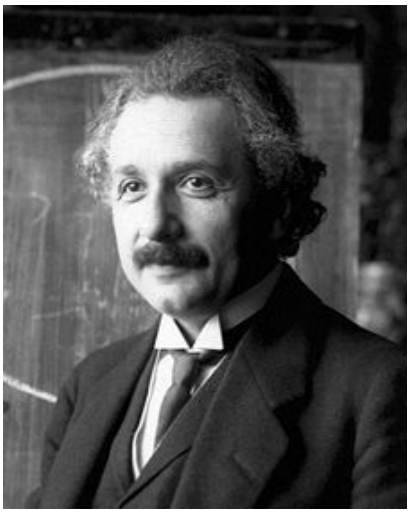

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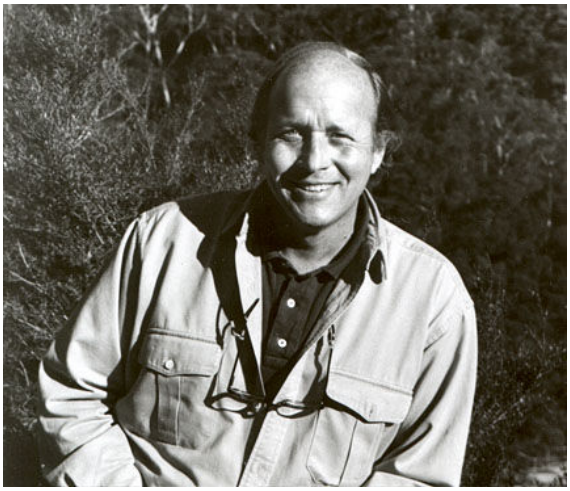

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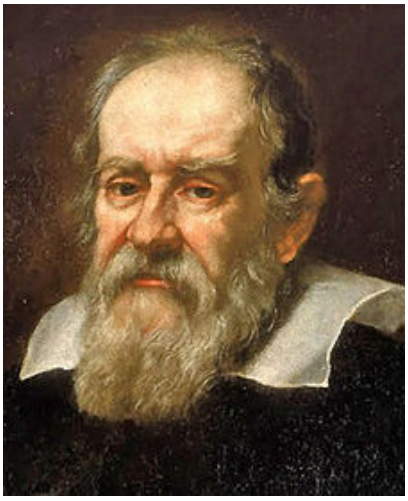

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REV. D. B. MARSH

Daniel Brand Marsh died in Hamilton on September 22, aged 74 years. He was born on a farm near Walter's Falls, not far from Meaford, Ont. He attributed to his mother his early interest in astronomy which was quickened by first lessons given him with the aid of a small telescope. His natural inclination towards mechanics was shown by his construction at the age of fifteen years of a small steam engine, made from material around his home. His finer mechanical gifts were further developed by apprenticeship to a watch maker. This served him well in later years when he undertook to construct a number of telescopes. After attending Knox College, which is affiliated with the University of Toronto, he entered the ministry of the Presbyterian Church, a connection he maintained to the time of his death. Whilst a busy minister he purchased a lathe and its necessary accessories and set it up in the basement of his home. Here he spent his spare hours constructing various mechanical devices, among them being a stethoscope, an audiphone and a cylinder phonograph after the pattern of Edison's. In 1901 he became a member of the Royal Astronomical Society of Canada and then during his leisure turned his attention to constructing refracting telescopes. A number of these were made with equatorial mounting and driven by clock work, Brashear or Watson-Conrady object glasses being employed while the mechanical parts were the work of his own hands. A number of these instruments were placed throughout Canada and have been admired for their excellence of workmanship.

Dr. Marsh was mainly responsible for the formation of Centres of The Royal Astronomical Society of Canada at Peterboro, Guelph and Hamilton. His ministerial work called him to Bermuda for the period 1920 to 1925, where his untiring energy would not allow him to neglect astronomical matters. While there he not only interested the public in astronomy but also assisted navigators by giving time and correcting their instruments. In 1925 he was the leader of a party sent by the Bermuda Government to New Haven, Conn., to view and photograph the eclipse of the sun.

Before returning to Canada he visited Trinidad and British Guiana and while there contracted malaria from which he apparently never entirely recovered. He presented a telescope to Captain Bernier who had it with him during his arctic voyages. One of his telescopes was presented to the Presbyterian College at Indore, India, where it is still in use. He was elected a Fellow of the Royal Astronomical Society in 1904.

He was a member of the Astronomical Society of France, of Belgium and of Mexico. In 1905 he was a member of the Canadian Government eclipse party sent to Labrador, and in August of last year headed the Hamilton party at Acton Vale, Quebec, where he succeeded in securing several excellent photographs of the eclipse. In his photographic outfit was included a concave lens inserted inside the focus of the telescope, somewhat similar to that known as a Barlow lens, to amplify the resulting image. A few weeks before his death Dr. Marsh was the recipient of a grant of $1,000 from the Dominion Government in recognition of his long service in the interests of astronomy in Canada. Dr. Marsh was given degrees in philosophy and science through a post-graduate course at Chicago.

There are left in the immediate family his widow, Cora Burling Marsh, who has always assisted him in his work; two daughters, Mrs. Mary Marsh Mesnard, of Hamburg, N.Y., and Dr. Ina A. Marsh, of the Buffalo City Hospital; and a son, John A Marsh, of Hamilton, Past President of the Hamilton Centre, R.A.S.C., who was associated closely with his father in the latter years of his life. An older son, Lieut. James W. Marsh, who held an important position as mechanical expert with the C.N.R., was killed in action at Passchendale in 1917.

Amateur Astronomers Discover Stellar Outburst

Washington DC (SPX) Jan 29, 2010
A discovery by two amateur astronomers in central Florida helped to set in motion a global network of ground- and space-based telescopes today, observing a violent explosion of a distant star in our Galaxy.
The two astronomers, Dr. Barbara Harris of New Smyrna Beach and Shawn Dvorak of Clermont, were active participants in a global research campaign to monitor activity of the star U Scorpii.

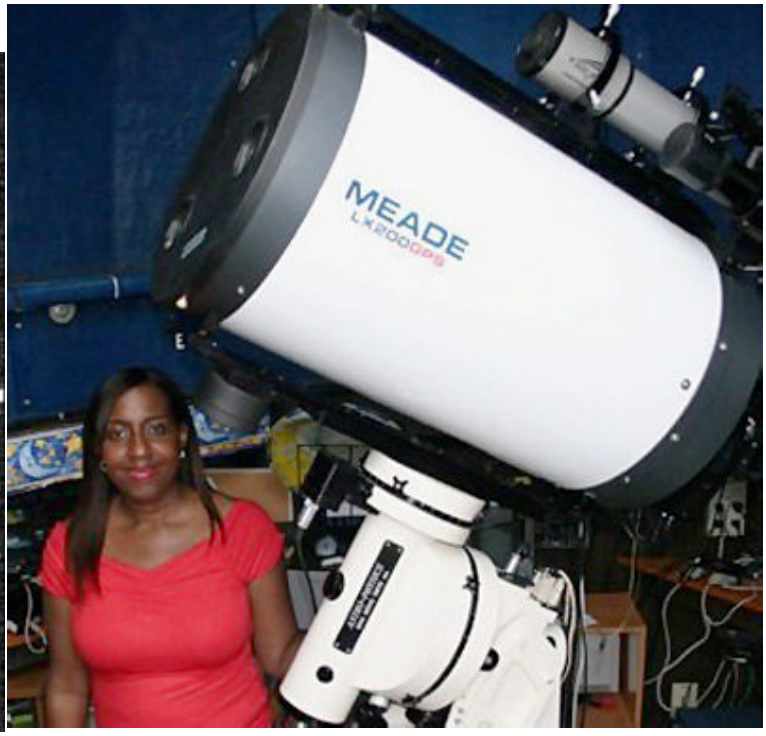
Their detection of this explosion in the early morning hours of January 28 served as the trigger for a number of satellites and ground-based telescopes waiting on this important event.

U Sco, an object known as a recurrent nova, had been predicted to outburst during a two-year window beginning in the spring of 2008. Both Harris and Dvorak had been conducting long-term monitoring as part of a campaign run by the American Association of Variable Star Observers (AAVSO).

This campaign, organized by Dr. Bradley Schaefer (Louisiana State University), involved professional and amateur observers from around the world monitoring this star every night throughout that two-year window.

Their persistence paid off early in the morning of January 28. Harris was first to detect the outburst shortly before 6 a.m. local time, with Dvorak's independent detection arriving shortly afterward.

Discovery Image of U Scorpii



Barbara Harris, the first discoverer, with her 16-inch scope and observatory.

The two near-simultaneous observations provided all the proof required to alert observers and observatories around the world and in space that U Sco's outburst had finally occurred. Within an hour, Schaefer set in motion the global network of observatories, and by the end of the morning, two X-ray satellites (the Rossi X-Ray Timing Observatory and the INTEGRAL satellite) had already made observations.

Over the next several months, astronomers will be monitoring the progress of this outburst at nearly all wavelengths of light from radio waves to X-rays using a number of ground-based telescopes and spaceborne observatories.

Dr. Arne Henden, Director of the AAVSO, commented that "this again shows the real advantage of the worldwide distribution of amateur astronomers for detecting transient events like this.

Harris and Dvorak could watch U Sco rise over the Atlantic, hours before professional astronomers in the Western U.S. would have a chance. Then, because of the winter weather for most U.S. professional observatories, amateurs continued monitoring U Sco from New Zealand and Australia, catching the important first hours of the outburst."

The AAVSO's Observing Campaign coordinator, Dr. Matthew Templeton, notes that amateur astronomers play an important role in time-critical projects such as this.

"Amateurs have the option of observing what they want, when they want. Sometimes, the only source of observational data for projects such as this is the amateur community. The observers of the AAVSO have been working with the professional community for decades to provide this kind of help. It's a key part of the process of doing scientific research, and the work of the amateur community makes it possible."

Amateur astronomers around the world will continue to participate in the observing campaign, providing data to complement the observations made by larger ground- and space-based telescopes. The progress of the U Scorpii outburst can be followed via the internet; the AAVSO is maintaining a web page devoted to the event, and anyone can view observational data as they are submitted in real time through the AAVSO website.

Astrophotographers wanted

A WORLDWIDE search for the astronomy photographer of the year is underway with £1,000 prize up for grabs.

The annual search which was launched last year by the Royal Observatory, in Greenwich, now has four categories - Earth and Space, Our Solar System, Deep Space and a Young Astronomy Photographer of the Year, which is open to all under 16s.

Entries for the most spectacular vision of the cosmos must be submitted by midday on July 16 and can be striking images of distant nebulae or pictures of the night sky.

Last year saw 540 entries from 25 countries, with Brit Martin Pugh winning.

He said: "I was contacted very shortly after the competition ended by a media outlet who took me on to sell my images worldwide. "Not only did I win the competition, but I also had a stamp released in Australia."

Now there are two new special prizes - People and Space, which will recognise the best photo featuring people in the shot, and Best Newcomer will be awarded to the most creative amateur astrophotographer.

Photographers can enter online by visiting www.nmm.ac.uk/astrophoto and entrants are permitted to submit five images for the competition.

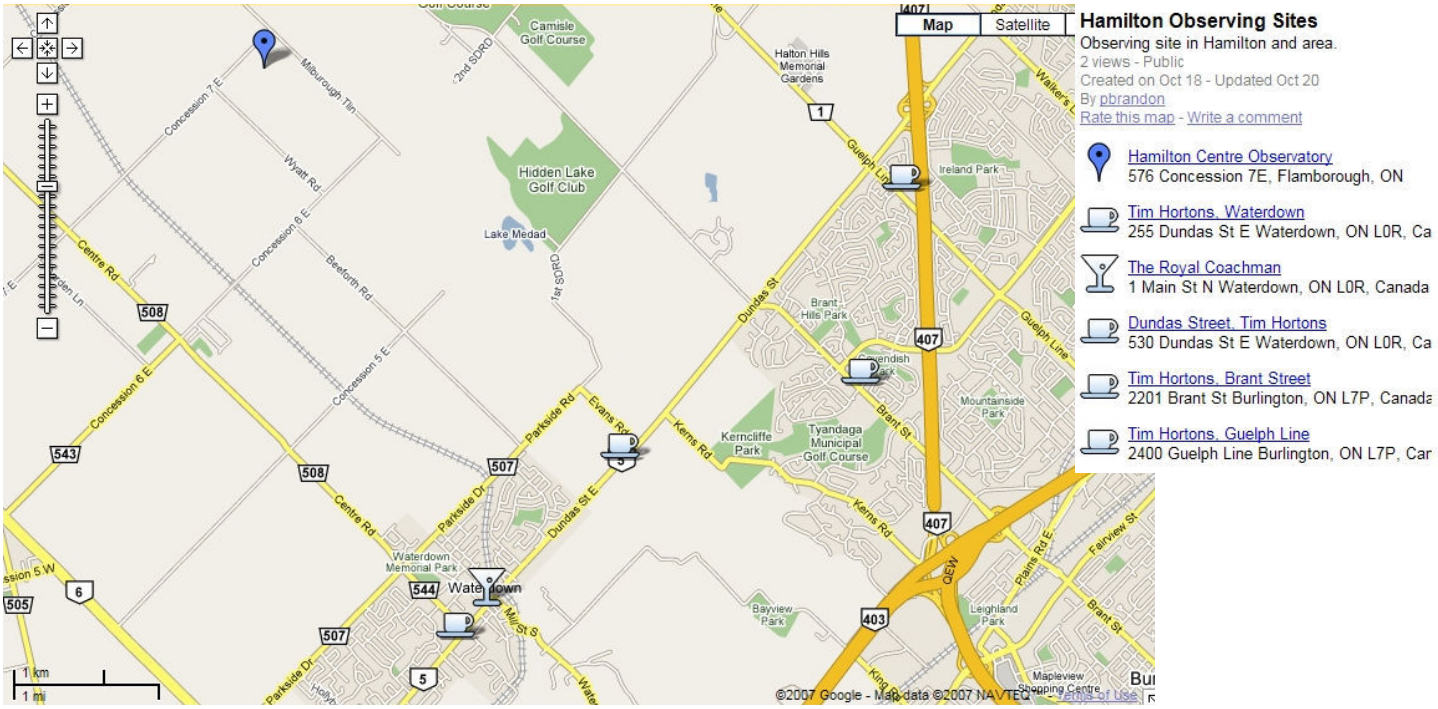
The winning entries will be showcased in an exhibition at the Royal Observatory from September 10 to January 9, 2011.

What you missed last Month!

We had our first general meeting at Discovery Landing in January, and it was a huge success! Our speaker was the amazing Paul Delaney of York University, who enthralled everyone, talking about Exploring Mars. But that wasn't the entire story that night. Ev Rillett talked about Greek in the Round, and Gary Colwell talked about what's coming up in the sky in January. We held a raffle, and the prize of a GalileoScope was won by Laurel Grace, of Burlington.

On Friday evening, January 29th, Roger Hill gave a talk on the History of the Hamilton Centre to the The Waterdown-East Flamborough Heritage Society. Mark Pickett, Ed Mizzi, Gary Colwell and his son Harrison, also came out and showed off the Moon, Mars, M42 and M45 through assorted telescopes. It was a thoroughly enjoyable evening.

Thanks to Ed Mizzi for the pictures!



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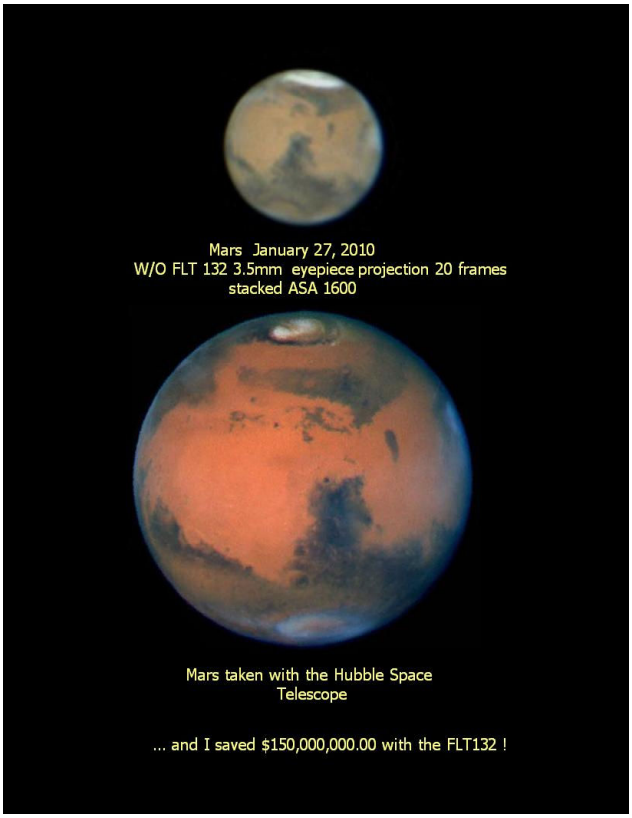

Front Cover from Les Nagy in Chile, What you Missed pictures by Ed Mizzi, Mars image by Gary Colwell.