

SKYNEWS



Comet Lovejoy C/2013 R1
by John McDonald

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FEBRUARY MEETING

Wednesday February 12th, 7:30pm
A104 Bob Wright Bldg,
University of Victoria
3800 Finnerty Rd

www.victoria.rasc.ca

On the Cover

Comet Lovejoy (C/2013 R1) taken by John McDonald. "I had to work hard to capture this one. It was up before dawn but the time window was limited. I took several frames but this is a single one and is not bad for noise and has sharp stars."
 2013-12-07 at the Alberta All Star Party.
 Canon modified 6D with 300mm lens.
 Exposure - 1 frames at 120s, f/4 and ISO 2500.
 Processing in Photoshop.

January Speaker

by W John McDonald

**"A brief update on modern physics"
 by W John McDonald"**

From the smallest constituents of atoms to the largest structures in the Universe nothing is as it seemed in 1900 just before relativity and the quantum revolutionized science. My aim is to give a broad-brush picture of the material world that emerges from observations of systems ranging in size from quarks, leptons and the Higgs boson to stars, galaxies and universe itself. It is a picture that differs greatly from our common sense ideas. Those ideas evolved historically based on interpreting information we got from our human senses. With the development of modern instruments that let us see further and deeper into nature's secrets a picture of a very different reality is evolving. It is an incomplete picture but rich and compelling nevertheless.

Presidents Report

by Nelson Walker



There is not much to report this month, aside from confirming that the hum you hear in the background is Victoria Centre's GA 2014 committees working away as the June date nears. Remember too, that we have decided to proceed with our annual Astronomy Day, this year to be held at the Royal BC Museum on May 10. This "double booking" of events will lead to a bit more work on our part, but with Paul and Mark at the helm of the GA, and Sherry heading up the our day at the museum, and our usual cadre of energetic volunteers, we should have a Spring to remember.

On the observing front, I would like to urge all of you to make this your "Messier" year. Start keeping a record of the "M" objects that you observe, and before long you will have one of those little round pins.

2nd Vice President

by Sherry Buttner

Reports for January

Membership

Total: 169
 Grace: 7 (please see or email me to check if you're on the list!)

Liasons

HIA: nothing to report from Clyde.
 Plaskett: no reply.
 UVic: exciting news shortly. Stay tuned!
 Transport Canada: none.

Ham Radio in April and June

by Malcolm Scrimger, VE7DAO

Members of the Victoria Centre who have their ham radio licenses have a unique opportunity to let their fellow hams know about the Victoria Centre's Centennial this year. An application has been made to Industry Canada to allow only members of the Victoria Centre RASC to use a special prefix for their call sign. A generic QSL card is in design and will be available to those who wish to send it to the contacts they make.

VE7 becomes VC7
 VA7 becomes VB7

The suffix remains the same as your regular call sign for the Month of April.

I am also looking into setting up a Special Event station during the General Assembly weekend in June, 2014. It could be established at the University of Victoria with it's own unique call sign. During the last weekend of June is the International radio contest called Field Day in which radio operators call each other for contest points. Special event call signs always generate lots of attention during these events.

It is my hope that attendants will enjoy seeing radio operators in action and may also want to participate.

Hubble Eyes Galaxy as Flat as a Pancake



Located some 25 million light-years away, this new Hubble image shows spiral galaxy ESO 373-8. Together with at least seven of its galactic neighbors, this galaxy is a member of the NGC 2997 group. We see it side-on as a thin, glittering streak across the sky, with all its contents neatly aligned in the same plane.

We see so many galaxies like this — flat, stretched-out pancakes — that our brains barely process their shape. But let us stop and ask: Why are galaxies stretched out and aligned like this?

Try spinning around in your chair with your legs and arms out. Slowly pull your legs and arms inwards, and tuck them in against your body. Notice anything? You should have started spinning faster. This effect is due to conservation of angular momentum, and it's true for galaxies, too.

This galaxy began life as a humungous ball of slowly rotating gas. Collapsing in upon itself, it spun faster and faster until, like pizza dough spinning and stretching in the air, a disc started to form. Anything that bobbed up and down through this disk was pulled back in line with this motion, creating a streamlined shape.

Angular momentum is always conserved — from a spinning galactic disk 25 million light-years away from us, to any astronomer, or astronomer-wannabe, spinning in an office chair.

Hubble Sees a Stellar "Sneezing Fit"



Look at the bright star in the middle of this image. It appears as if it just sneezed. This sight will only last for a few thousand years — a blink of an eye in the young star's life.

If you could carry on watching for a few years you would realize it's not just one sneeze, but a sneezing fit. This young star is firing off rapid releases of super-hot, super-fast gas, like multiple sneezes, before it finally exhausts itself. These bursts of gas have shaped the turbulent surroundings, creating structures known as Herbig-Haro objects.

These objects are formed from the star's energetic "sneezes." Launched due to magnetic fields around the forming star, these energetic releases can contain as much mass as our home planet, and cannon into nearby clouds of gas at hundreds of kilometers/miles per second. Shock waves form, such as the U-shape below this star. Unlike most other astronomical phenomena, as the waves crash outwards, they can be seen moving across human timescales of years. Soon, this star will stop sneezing, and mature to become a star like our sun.

This region is actually home to several interesting objects. The star at the center of the frame is a variable star named V633 Cassiopeiae, with Herbig-Haro objects HH 161 and HH 164 forming parts of the horseshoe-shaped loop emanating from it. The slightly shrouded star just to the left is known as V376 Cassiopeiae, another variable star that has succumbed to its neighbor's infectious sneezing fits; this star is also sneezing, creating yet another Herbig-Haro object — HH 162. Both stars are very young and are still surrounded by dusty material left over from their formation, which spans the gap between the two.



A 5 day old moon taken by Malcolm Scrimger on January 5th 2014.

**ASTRONOMY
CAFÉ**



Fairfield Community Centre

1330 Fairfield Rd. Victoria,
7:30pm - 11pm

Call Geoff at (250) 592-2264 for
directions and information.

New comers are especially
encouraged.



New Observers Group

Hosted by Sid Sidhu
1642 Davies Road, Highlands. Call
250.391-0540 for information and
directions.



Email Lists

**Observer / CU Volunteers /
Members**

Contact Joe Carr to subscribe
web@victoria.rasc.ca

NEXT REGULAR MEETING

Wednesday February - 12th 7:30pm - A104 Bob Wright Bldg, University of Victoria, 3800 Finnerty Rd.

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