which time essentially does not exist as we know it, it would represent an impossibility from a standpoint of known modern physics – a place in which the laws of physics literally break down completely. The movie described how black holes are now known to be almost everywhere within galaxies, and also a very integral part of the entire existence of the Universe.

Next Hallam Open House is April 5 at 8:30 p.m.
Next meeting is April 15 at 7:30 p.m.
Next Point Pelee Dark Sky Night is April 26.

Break and Fifty-fifty draw: Dave Panton won and donated the winnings back to the Centre.

Director of Observing Report, Steve Pellarin: Quite a bit of things are going on in the night sky during the next few days. Winter constellations are still in the southwestern sky, with Orion still prominent along with Taurus and Gemini. Jupiter is still the most prominent object up around that region because of its brightness. Sirius is still high enough for good views.

Spring constellations include Cancer and Leo, along with Virgo's arms beginning to rise. The star Arcturus is still around, and more to the north the Big Dipper is still high above the horizon.

Mars is brightening now, drastically more than it had been a few weeks ago since it is approaching closer to Earth, and will be at its best to view in years in about three weeks. The Sun has upwards of 110 sunspots on it right now, though not all can be on the same side that's facing us at any one time, and not all visible to us even in very large telescopes. However, these spots are not presently flaring significantly.

March 21	Saturn 0.2° N of Moon
March 22	Venus at greatest elongation W (47°)
March 24	Double Shadow Transit on Jupiter
April 3	Moon will pass through Hyades star cluster
April 8	Mars at Opposition
April 15	Total Lunar Eclipse taking place overnight after April 14 during the early morning hours of the 15th, please review front page cover article of the month's newsletter as a reminder to get out and observe it.

Meeting **adjourned at 10:24 p.m.**

Recorded by Matt McCall, RASC Windsor Centre Secretary.

Aurora

The Royal Astronomical Society of Canada - Windsor Centre

Volume 39, No. 7

April 2014

Flyer

Next Meeting

Tuesday, May 20, 2014
7:30 p.m.
at
Ojibway Park Nature Centre
5200 Matchette Road

Speaker: To Be Announced

Topic: *"To Be Determined"*

Upcoming Events

Earth Day Fund Raising Dinner: Canada South Science City (CSSC) is hosting the event at the Caboto Club on **Monday April 21st** with Guest Speaker - Ivan Semeniuk. For tickets and details contact the CSSC at (519) 973-3667 or www.cssciencecity.com

Open House Night at Hallam: The next open house night at Hallam Observatory is on **Saturday May 3** at 9:00 p.m..

Science Rendezvous/Canada Wide Science Fair: On Saturday **May 10** from 10:00 a.m.—4:00 p.m. we will be participating in **Science Rendezvous** by hosting a table and solar observing session at the University of Windsor CAW Student Centre. Following the daytime activity we will be hosting a waterfront star party in the Odette Sculpture Garden for the **Canada Wide Science Fair** participants.

Monthly Meeting Minutes
March 18, 2014

The Royal Astronomical Society of Canada - Windsor Centre, Ojibway Park Nature Centre.

Windsor Centre **Past President Paul Pratt** chaired the meeting. Paul called the Meeting to order at 7:37 p.m. and welcomed members and guests to the Ojibway Park Nature Centre.

Motion to accept the Minutes of the February 18, 2014 meeting moved by Susan Sawyer-Beaulieu, seconded by Greg Mockler. MOTION CARRIED

Main Presentation, slideshow by Tom Sobocan on his visit to the Armstrong **Air & Space Museum** in Wapakoneta, Ohio - Neil Armstrong's hometown. The photographs from his trip began with one showing runway lights and the roof of a planetarium which turned out to be part of the museum. The next few slides consisted of text describing the Apollo 11 mission to land a man on the Moon, as well as information on the museum itself:

THE YEAR WAS 1969 AND THE MOOD WAS AS HIGH AS THE MAN ON THE MOON. NEIL ARMSTRONG HAD DONE WHAT NO MAN HAD DONE BEFORE HIM. FROM HIS HOMETOWN OF WAPOKENETA, ACROSS THE UNITED STATES, AND AROUND THE WORLD PEOPLE WANTED TO HONOR HIS FEAT.

AFTER THE STATE OF OHIO PLEDGED THE MONEY TO BUILD THE MUSEUM, GOVERNOR RHODES CHALLENGED THE LOCAL COMMUNITY TO MATCH, DOLLAR FOR DOLLAR, THE FUNDS TO BUILD THE FACILITY. "NEIL ARMSTRONG IS THE MAN OF THE CENTURY AND WE WANT TO PERPETUATE HIS ACHIEVEMENTS HERE IN OHIO," RHODES SAID.

ON JULY 20TH, 1972, THE ARMSTRONG AIR AND SPACE MUSUEM WAS OPENED TO MUCH FANFARE. ARMSTRONG HIMSELF WAS PRESENT TO HELP OPEN THE FACILITY, AND TRICIA NIXON COX, STANDING IN FOR THE PRESIDENT, PRESENTED MOON ROCKS . . .

Tom then continued his talk by showing the audience just how and where to go to reach the Air & Space Museum in Ohio, explaining that it is only about a three-hour drive from Windsor, Ontario across the U.S. border and down I-75 to reach Wapakoneta. A map showed that the town is just off the highway and so it is very easy to travel to.

A photo of an F-4D Skylancer - one of only four such planes ever constructed - was displayed within his slides. It was the test vehicle for the Dyna-Soar spaceplane, which could have become the world's first spaceplane and more advanced than the Space Shuttle program had it been developed. Neil Armstrong was a test pilot for the F-4D from 1960 to 1962.

Other exhibit displays included smaller mockups of the X-15 rocketplane, the Gemini spacecraft capsule, Sputnik, and Apollo Lunar Module. A Saturn V moon rocket miniature mockup was also shown.

There were also very many interactive exhibits such as a brick-lifting station, designed to simulate the various gravities of the Earth, Moon, and Mars, a real genuine fragment of Moon-rock, as well as a fragment that came from Meteor Crater in Arizona. One of the cameras that the astronauts used during the Moon landing missions was able to be viewed behind glass. A very small mockup of the Space Shuttle was on display, including a piloting exhibit in which a person can attempt a simulated landing of the Shuttle, very much like a kind of advanced video game or flight sim. Tom described how he used it and that it was very difficult to avoid crashing, but with different difficulty settings and scenarios, it is still possible for someone to manage a successful landing. Something similar was a simulator to attempt docking your spacecraft to another spacecraft in space. There is no gravity high above the Earth, so therefore no friction to slow you down.

Inside the museum is the actual Gemini 8 spacecraft that was flown by astronauts Neil Armstrong and Dave Scott. Other displays sitting outside the main building on the property include a life-size Gemini capsule mockup that you can sit inside and an Apollo Command Module - without an attached Service Module. Also outdoors is an area known as 'Aviation Trail'; a grouping of spots you can see related to aviation as a whole. Tom showed off a photograph of an intersection on the outside property with street signs labeled 'Apollo Drive' and 'Saturn Drive', sitting just atop a stop sign.

Tom finished his presentation by saying that he was very pleased to have had the opportunity to visit this Air & Space Museum, which had all come about simply because he was in town for a wedding and his hotel parking lot just so happened to be located just in front of the main building.

Paul thanked Tom for his talk and then moved on to the evening's **movie presentation entitled – Black Holes: What Are They?** This space science documentary was all about attempting to explain just what a black hole really is – what we think we know about them, and how and why they can exist.

This video provides an excellent presentation on the subject, featuring some of the world's top leading scientists in their field of study into astrophysics and mathematics. It explained how Einstein believed that such a thing in our Universe could not possibly exist according to relativity, and that at some point in the future someone would discover the existence of something else in the cosmos which would prevent a black hole from ever forming. The idea was that since a black hole was considered a 'singularity' within space, and an area in