

# POLARIS



## Royal Astronomical Society of Canada London Centre Newsletter October 2016

### Technology Dependency

Patrick Whelan

As our lives become more dependent on technology, we become slaves to a lifestyle we cannot fix or repair when it goes wrong. I remember watching a very good episode of James Burke's Connections where he muses about what happens if the electricity fails for a long time. Immediately elevators and subways don't work and all of our home appliances fail. After a while there is no gasoline because you need electricity to pump it and slowly all of civilization starts to crumble.

It got me thinking just last night. I had a wonderful evening of practicing the piano and then decided to fire up the computer and check emails and the like. Ack! Something was wrong, the computer wouldn't connect to the internet. So I fired up the PS3 and it connected fine. Darn. Back to the computer. After a bit of troubleshooting it seems the network card decided to fail. I need to replace it and of course I don't have a spare lying around so the fix had to wait until the next day. Did you see what I wrote two sentences ago? I said the network card DECIDED to fail. That is called anthropomorphism. That means I gave human characteristics to an inanimate object. It makes cold technology seem a little more friendly. (of course it really isn't friendly)

But this got me thinking about amateur astronomy and its technologies. Let's have a little look.

Dobsonian telescopes: The best of the low tech! No electricity needed for this. You have eyepieces and a big mirror in your telescope. Tech problems: Teflon bearing pads wear down and get sticky or maybe your mirror(s) go bad. Teflon bearings can be 'user replaced' but who knows how to silver a mirror? And can you fix the focuser if needed? My old Coulter had the ultimate low tech focuser, a plumbing compression fitting!

Equatorial or alt-az mounted telescope: These can exist with or without motors. You have slow motion controls that move by hand and clutches on the axes to enable or disable the controls. Tech problems: motors can fail, metal gears can break, metal components that hold the telescope on the mount. Even if the gears break

you can still point the telescope by hand.

Motorized/computerized EQ and alt-az mounts. Now we have a built-in computer running the motors. If the computer fails GOOD LUCK! You need to be an electronics technician or better to fix it. If you don't have manual controls on it, you are dead in the water. These telescopes can come with a GPS built into it also. Definitely not 'user serviceable'. I have a 4" Celestron Nexstar like this. It is computer controlled and has NO manual controls on it. If it fails, there isn't much I could do with it.

There are more technologies in telescopes but lets stop the list now. What are the repercussions of using technology in our hobby? (other than not being able to fix our hardware?)

I think the biggest technology problem in the hobby would be go-to mounts. In the 'days of old' you had to know how to point your telescope by hand. You needed a star chart (or lots of star charts) and a knowledge of the sky to find what you wanted. With go-to mounts all that is gone. You need to know how to align the telescope once and that is it. Aligning the telescope might need you to find 2 stars in the sky and some telescopes can now do even this by themselves! Look Mom, no hands! But when the little computer fails what then? No more hobby. You don't know how to find anything in the sky. That is why when people are completing various certificate observing lists RASC has, you need to find the object yourself.

Don't get me wrong. I'm not an old fuddy-duddy. (well maybe I am, but that is not the point) I don't criticize technology all the time and I don't live in a house with a wood fire for heat and oil lamps to read by. I like technology and I really love the go-to telescopes I have. But just remember when and where you are using technology and how much you depend on it. And every now and then just think for a bit: what would you do if the technology you use failed for a long time? You will be surprised how much thinking you can do on this topic!



## Moon Phases



October 9 2016



October 16 2016



October 22 2016



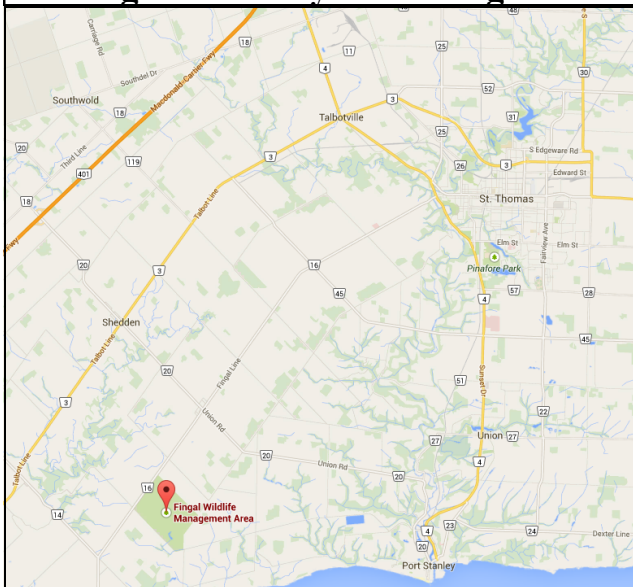
October 30 2016

## October Meeting

The guest speaker for October will be  
Eric Poisson.

His topic will be "Gravitational Waves:  
Ripples in Spacetime".

## Fingal Dark Sky Observing Site



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## Sky Events for Late October and early November

October 21 Ceres at opposition  
 October 25 Regulus 1.6° N of Moon  
 October 28 Jupiter 1.4° S of Moon  
 November 6 Daylight saving time ends  
 November 9 Neptune 1.0° S of Moon  
 November 14 Large tides  
 November 15 Aldeberan 0.4° S of Moon



Mercury was well placed in the morning sky, in conjunction with the Sun on 27th  
 Venus in the western sky after sunset, in conjunction with Saturn on 30th  
 Mars in Sagittarius sets in early evening  
 Jupiter by mid month reappears in morning sky in Virgo  
 Saturn low in the SW mid evening sky, sets in late evening  
 Uranus at opposition on 15th in Pisces  
 Neptune visible most of the night just past opposition, retrograding in Aquarius



### R.A.S.C. London Centre Library Books of the Month October 2016 By Robert Duff

As always, these “Books of the Month” are available for loan to members, to be returned at the following monthly meeting. The books for October 2016 are as follows:

In Search of Time: Journeys Along a Curious Dimension, by Dan Falk. c2008.

The Science of Shakespeare: A New Look at the Playwright’s Universe, by Dan Falk. c2014.

365 Starry Nights: an Introduction to Astronomy for Every Night of the Year, text and illustrations by Chet Raymo. c1982.

For a complete listing of our library collection please go to the Main Menu on the left side of the RASC London Centre Web site main page and click on Club Library:  
<http://www.rasclondon.ca/library-and-rentals>

If there is a particular book or video you wish to borrow, please feel free to contact me by telephone at (519) 439-7504 or by e-mail at [rduff@sympatico.ca](mailto:rduff@sympatico.ca)

#### **Cronyn Observatory Public Nights & Special Events, September 24th —October 8th, 2016**

**By Robert Duff**

#### **Science Literacy Week @Cronyn Observatory, Saturday, September 24, 2016**

Clear skies greeted some 250 visitors for the Science Literacy Week celebration at Western University’s Cronyn Observatory, Saturday, September 24th, 2016, 5:00—9:00 p.m. Science Literacy Week was an effort to showcase the excellence of science outreach institutions across Canada. The event was hosted by Western University’s Centre for Planetary Science and Exploration (CPSX) in partnership with the Department of

Physics and Astronomy and RASC London Centre.

Scheduled activities for children and adults included the (1) Space Science Challenge, 5:30 p.m. for children and 7:00—8:00 p.m. for adults; (2) Planet Walk across campus starting from the orange balloon, representing the Sun, on the front lawn of the observatory; (3) Stargazing through the big 25.4cm refractor in the dome and amateur telescopes; (3) Hands on Activities, including building model rockets and creating 3D celestial objects and spacecraft; (4) Arts and Crafts for children; (5) Historical Displays and Artifacts in the “Period Room”; (6) Space Books on display; and (7) a Raffle Draw, taking place at 7:00 p.m. before the Space Science Challenge (for adults).

RASC London Centre was represented by Rick Saunders, Peter Jedicke, Paul Kerans, Steve Gauthier, Bob Duff and Tricia Colvin. The visitors were welcomed in the lecture room by the event organizer and recent doctoral graduate, Parshati Patel, undergraduate student William Hyland and by RASC London Centre President Rick Saunders. There was a display table of take-away promotional materials provided by CPSX and the observatory. There was a raffle draw shortly after 7:00 p.m. conducted by Parshati and Rick, which included (1) a cardboard cut-out model of NASA's Orion spacecraft, (2) a Galileoscope and (3) a 114mm (4.5-inch) Newtonian reflector donated by RASC London Centre Past President and now Public Outreach Coordinator Dave McCarter.

Graduate student Dilini Subasinghe was telescope operator for the big 25.4cm refractor in the dome and, beginning around 6:15 p.m., showed visitors the communications tower in south London. Dilini was later joined by Peter Jedicke in showing visitors Mars and the yellow and blue double-star Albireo through the big 25.4cm refractor (32mm Erfle eyepiece, 137X).

On the roof patio outside the dome, Bob Duff operated the observatory's Meade 8-inch (20.3cm) Schmidt-Cassegrain, showing visitors Mars and Saturn (12.5mm Ortho eyepiece, 160X) and Albireo (26mm Plossl eyepiece, 77X). Steve Gauthier operated the London Centre's 25.4cm Dobsonian, showing visitors Mars and Saturn (17mm Nagler eyepiece, 66X) and M31 and M32, using his 35mm Panoptic eyepiece (32X). Paul Kerans set up his Celestron 9.25-inch (23.5cm) Schmidt-Cassegrain (Sky-Watcher EQ6 mount) and showed visitors Mars and Saturn (21mm Ethos eyepiece, 112X), and M13 and M57 (10mm Axiom LX eyepiece, 235X).

Downstairs in the "Black Room" children and adults were making paper model rockets and Tricia Colvin welcomed people to the historic "Period Room," pointing out some artifacts. The visitors were mostly gone by around 9:00 p.m. after a very enjoyable evening of star gazing and astronomy and space activities.

### **Doors Open London and Culture Days @Cronyn Observatory, Saturday, October 1st, 2016**

Cloudy damp weather greeted visitors to the Doors Open London and Culture Days celebration at the Hume Cronyn Memorial Observatory, Saturday, October 1st, 2016, 2:00—10:00 p.m. This was part of the Doors Open London and Culture Days, October 1st—2nd, 2016, free weekend celebrating of London's cultural experiences, with more than 40 sites and 150 events across the city.

Graduate student Dilini Subasinghe was the event organizer and she greeted people in the observatory's lecture room, where there was a display table of take-away promotional material for "Doors Open London and Culture Days" as well as "Exploring the Stars" flyers. An automated digital slide presentation showed historic pictures of the Cronyn Observatory. Dilini counted 88 visitors before leaving at 5:15 p.m. with graduate student Robin Arnason taking over welcoming and bringing the final count to 201 visi-

tors.

RASC London Centre was represented by Paul Kerans, Everett Clark, Bob Duff, Dale Armstrong, Tricia Colvin, Mark Tovey, Peter Jedicke and Steve Gauthier. Richard Gibbens visited and watched the slide presentation.

Since damp cloudy weather ruled out solar observing, Paul Kerans arrived early around 11:00 a.m. and set up the 3 amateur telescopes inside the dome, including his 9.25-inch (23.5cm) Celestron Schmidt-Cassegrain (Sky-Watcher EQ6 mount) — set up somewhat back from the door to the roof patio—and the observatory's 90mm Coronado H-Alpha Solar Telescope (Sky-Watcher EQ5 mount) and 8-inch (20.3cm) Meade Schmidt-Cassegrain. Steve Gauthier was there 6:00—10:00 p.m. and showed visitors views of the wind turbine on the Engineering building as well as objects on a shelf visible in one of the windows with London Centre's 25.4cm Dobsonian (17mm Nagler eyepiece, 66X) set up just inside the door to the roof patio.

Since the communications tower in south London was obscured by haze, the big 25.4cm refractor (28mm Super Wide Angle eyepiece, 157X) was directed towards a construction crane in the city. Bob Duff was at the Cronyn Observatory 2:34 p.m.—5:10 p.m. and for a short time supervised and talked with visitors as they climbed the observing ladder to view through the big 25.4cm refractor.

Peter Jedicke arrived around 6:00 p.m. and, starting at 7:00 p.m., gave an interesting 40 minute digital slide presentation "The Hume Cronyn Memorial Observatory: A Brief History." Dale Armstrong arrived around 2:30 p.m. and took pictures with his camera and tripod and helped out in the dome and the "Period Room" until closing, 10:00 p.m.

Downstairs in the "Black Room" Tricia Colvin operated the "Transit Demo" model—demonstrating the transit detection method for finding extra-solar planets. Mark Tovey gave tours of the historic "Period Room," which featured the "Sotellunium" mechanical eclipse demonstration model and Dr. H. R. Kingston's brass refractor telescope. Tricia and Mark were dressed in 1940s period costume complete with Mark wearing Dr. H. R. Kingston's top hat!

Tricia and Mark were there from 2:30—10:00 p.m. with staff member Henry Leparskas giving one tour of the "Period Room" prior to their arrival. Henry and Dale Armstrong took over the "Black Room" and "Period Room" respectively, when Tricia and Mark took a break 8:15—8:45 p.m.

The observatory was closed around 10:00 p.m. after a very interesting and enjoyable afternoon and evening for the visitors, learning about astronomy, telescopes and the history of the Hume Cronyn Observatory.

October 2016

### **International Observe the Moon Night @Cronyn Observatory, Saturday, October 8th, 2016**

Partly cloudy skies, clearing around 8:30 p.m., greeted visitors to the Cronyn Observatory for the 7th Annual International Observe the Moon Night (InOMN), Saturday, October 8th, 2016, 5:00—10:00 p.m. This event was hosted by Western University's Department of Physics and Astronomy, Centre for Planetary Science and Exploration (CPSX) and the London Centre of the Royal Astronomical Society of Canada (RASC London Centre).

There were an estimated 300 visitors (including some 100 children) and this includes 288 visitors (including 209 adults and 79 children) counted at the welcome table. However, the occasional rush of visitors and the open door downstairs in the "Period Room" made an exact count impossible.

There were digital slide presentations by faculty members, including Dr. Catherine Neish, "My Favourite Moons" (6:00 p.m.) and Dr. Phil Stooke, "The Voyages of Apollo" (6:30 p.m.). There were activities including (1) observing the Moon through the big 25.4cm refractor in the dome and amateur telescopes; (2) a Meteorite Display; (3) Impact Cratering Demonstrations; (4) Eclipse and Moon Phase Activity; (5) Arts and Crafts for children; and (6) the Raffle Draw (which included a Galileoscope and 2 books by Apollo 17 astronaut Harrison Schmidt, along with some NASA stickers).

Postdoc Parshati Patel was the event organizer. Graduate student Dilini Subasinghe and undergraduate student Seyedehnashtaran Ghafouriansahraei greeted visitors at the welcome table. Dilini switched places a couple of times with graduate student Robin Arnason as telescope operator for the big 25.4cm refractor in the dome. Undergraduate student William Hyland was also at the welcome table when not in the "Period Room." They greeted, provided information and counted visitors throughout the evening.

RASC London Centre was represented by Dave Clark, Everett Clark, Paul Kerans, Peter Jedicke, Dave McCarter, Tricia Colvin and Mark Tovey. Everett Clark set up the observatory's 90mm Coronado H-Alpha Solar Telescope (Sky-Watcher EQ5 mount) and staff member Henry Leparskas directed it towards the Sun, giving most of the volunteers a view of a very nice prominence. Henry gave general history tours in the dome for the first 2 hours and took photographs and talked with visitors the rest of the evening.

Downstairs in the "Black Room," CPSX graduate students Christy Caudill and Sarah Simpson conducted the "Impact Cratering Demonstration" and CPSX graduate student Jennifer Newman ran the "Meteorite and Impactite Station," which included samples of lunar, Martian and other meteorites. CPSX graduate student Elise Harrington and undergraduate student William Hyland were in "Period Room" before Mark Tovey and Tricia Colvin arrived. Mark and Tricia arrived around 7:30 p.m. and gave tours of the historic "Period Room," which featured the "Sotellunium" mechanical eclipse demonstration model and Dr. H. R. Kingston's

brass refractor telescope. Tricia demonstrated the "Sotellunium." There were in excess of 50 people who toured the "Period Room."

Graduate students Robin Arnason and Dilini Subasinghe took turns as telescope operator for the big 25.4cm refractor in the dome. They began by showing visitors the communications tower in south London in the late afternoon and—when the clouds cleared away—the first quarter Moon through the 25.4cm refractor, with the 28mm Meade Super Wide Angle eyepiece (157X).

On the roof patio outside the dome Paul Kerans set up his Celestron 9.25-inch (23.5cm) Schmidt-Cassegrain (Sky-Watcher EQ6 mount) and showed visitors views of the lunar terminator on the first quarter Moon and, later, the Andromeda Galaxy (M31), using his 21mm Ethos eyepiece (112X). Paul brought his Moon meteorite sample in small plastic display case, placed in a wooden block with a transparent Lexan polycarbonate sheet cover and invited visitors to "walk on the Moon" as they viewed the Moon through his telescope.

Dave Clark set up his Celestron Super C8 (20.3cm) Schmidt-Cassegrain on the patio's east side and showed visitors the Moon, using his 32mm eyepiece (63.5X); and the Moon again, along with Saturn and Mars using his 10mm eyepiece (203X). Everett showed visitors the Moon and Mars through the London Centre's 25.4cm Dobsonian, using the 17mm Nagler eyepiece (66X). Peter Jedicke and Dave McCarter arrived around 8:30 p.m. and talked to visitors, with Dave fielding questions on the roof patio. Henry Leparskas announced an Iridium flare at 20:12 (8:20 p.m.) high in the southeastern sky, with people crowded on the dome roof patio to see the event.

Everett distributed 20 "Star Finder" planispheres to interested visitors. CTV News was there taking videos in the dome and roof patio. The event was over by around 10:00 p.m. after very enjoyable evening for the visitors observing and learning about the Moon, the Apollo missions, meteorites, impact cratering and the history of the Cronyn Observatory.