

POLARIS



Royal Astronomical Society of Canada London Centre Newsletter June 2015

Technology Dependency

By 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 Burkes' 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-azimuth 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 can break. Even if the gears break you can still point the telescope by hand.

Motorized/computerized EQ and alt-azimuth 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 require you to find two 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 the various certificate observing lists RASC has you need to find the object yourself. No go-to telescopes are allowed.

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. 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 around you failed for a long time? You will be surprised how much thinking you can do on this topic!

Moon Phases



June 4 2015



June 9 2015



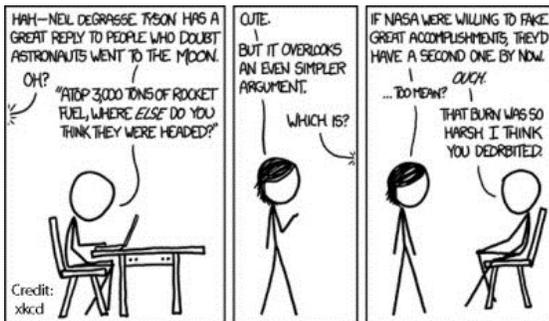
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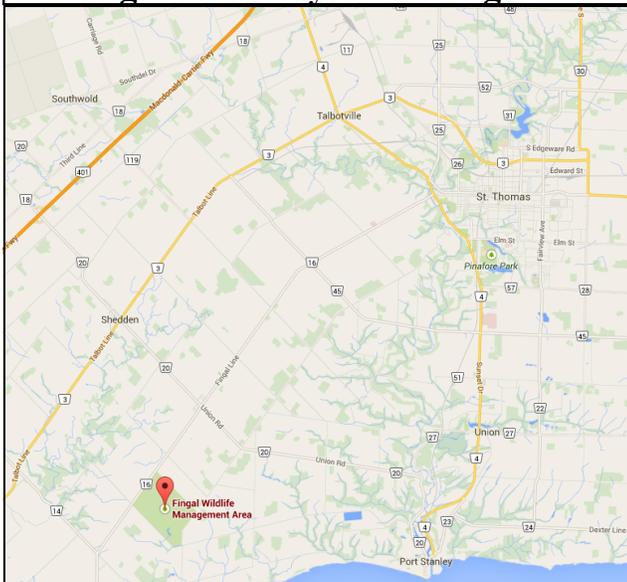
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June

This months speaker will be
A surprise!



Fingal Dark Sky Observing Site



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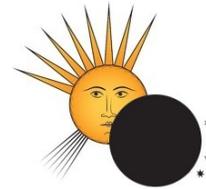
The ESA sent tardigrades into space in a mission they called Tardigrades in Space. For 12 days in September 2007, some 3000 water bears hitched a ride into space on ESA's orbital Foton-M3 mission. They shortened the mission name to **TARDIS!** Any Dr. Who fans present?

Sky Events for Late May and Early June

June 21 Solstice
 June 24 Mercury greatest elongation W
 June 29 Venus and Jupiter within 0.3
 July 1 Venus 0.4 S of Jupiter
 July 9 Uranus 0.8 N of Moon
 July Aldebaran 0.9 S of Moon



Mercury in the morning sky
 Venus low in the evening sky
 Mars not visible
 Jupiter low in the evening sky
 Saturn visible most of the night
 Uranus in the eastern morning sky in Pisces
 Neptune rises after midnight in Aquarius



R.A.S.C. London Centre Library Books of the Month June 2015 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 June 2015 are as follows:

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

The Infinite Journey: Eyewitness Accounts of NASA and the Age of Space, written by William E. Burrows. New York: Discovery Books, c2000. – (Discovery Books)

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

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/index.php/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

Cronyn Observatory Public Nights, May 16th—June 6th, 2015

By Robert Duff

Cronyn Observatory Public Night, Saturday, May 16th, 2015

Generally clear hazy skies with some occasional clouds greeted 20 visitors to Western University’s Cronyn Observatory Public Night, Saturday, May 16th, 2015, 8:30 p.m. Professor Pauline Barmby made the first of 2 presentations of her digital slide presentation “The Pleiades” before an audience of about 8 visitors. She made her presentation a second time for a few more arrivals. There were a total of some 20 visitors for the evening.

Graduate student Jeff Vankerkhove was telescope operator in the dome and directed the big 25.4cm refractor (32mm Erfle eyepiece, 137X) towards Venus in the western sky. He later swapped in the 18mm Radian eyepiece (244X) for a better view of Venus, which appeared brilliant white at half-phase. Jeff later redirected the big 25.4cm refractor, with the help of RASC London Centre member Bob Duff, towards Jupiter, which was impressive at 244X.

RASC London Centre was represented by Bob Duff, Steve Gauthier, Mark Tovey, Tricia Colvin, Dale Armstrong and Peter Jedicke. London Centre member Richard Gibbens was there and listened to the slide lecture. London Centre member Mike Flegel was also there later in the evening. Bob and Jeff set up the London Centre’s 25.4cm Dobsonian (17mm Nagler eyepiece, 66X), which Steve operated for the rest of the evening, swapping in the 12.5mm Ortho eyepiece (89X) to show

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visitors a better view of Jupiter. Steve, with some assistance from Dale and Bob, then used a 20mm Plossl eyepiece with a 2X Barlow lens (111.5X) to show visitors an even better view of Jupiter in the 25.4cm Dobsonian. (The 2X Barlow lens was from the Observatory's 90mm Coronado Solar telescope.) Steve later showed a few people Arcturus in the 25.4cm Dobsonian, using the 17mm Nagler eyepiece (66X).

Steve and Bob also set up the Observatory's 8-inch (20.3cm) Meade 2080/LX3 Schmidt-Cassegrain and Mark and Tricia supervised as visitors viewed Venus (20mm Plossl eyepiece, 100X) and then Jupiter 12.5mm (Ortho eyepiece, 160X) in this telescope. Dale thought it was extremely rare and fortunate to experience a night of "perfect seeing" in London, Ontario, which was why the views of Jupiter were so good.

Bob spoke to one couple interested in telescopes, showing them his copy of SkyNews (May/June 2015) and giving them each a RASC London Centre and RASC National brochure. The visitors were gone with the Observatory closed down around 11:05 p.m. after a very enjoyable evening of astronomy.

Cronyn Observatory Public Night, Saturday, May 23rd, 2015

Mostly clear skies greeted an estimated 70 visitors to Western University's Cronyn Observatory Public Night, Saturday, May 23rd, 2015, 8:30 p.m. Professor Stan Metchev began the first of 3 presentations of his digital slide presentation "Towards Finding Other Earths" before an audience of about 18 visitors (including 6 children). He made his presentation a second and third time for more arrivals. RASC London Centre member Bob Duff counted a total of 58 people in the lecture room and dome by 9:12 p.m. More people arrived bringing the estimated total to 70 for the evening.

Professor Paul Wiegert was telescope operator in the dome and directed the big 25.4cm refractor (28mm Meade Super Wide Angle eyepiece, 157X) towards the 5-day-past-new crescent Moon. He later redirected the big 25.4cm refractor towards Saturn, rising in the eastern sky, which made an impressive sight in the big telescope.

RASC London Centre was represented by Bob Duff, Steve Gauthier, Mark Tovey, Tricia Colvin, Dale Armstrong, Peter Jedicke, Roman Dubinski and graduate student and RASC London Centre member Emily McCullough. London Centre member Richard Gibbens was also there and listened to the slide lecture. Tricia and Steve showed people Jupiter in the London Centre's 25.4cm Dobsonian, using the 17mm Nagler (66X) and 12.5mm Ortho (89X) eyepieces. Dale Armstrong operated the Observatory's 8-inch (20.3cm) Meade 2080/LX3 Schmidt-Cassegrain and showed visitors Jupiter, using the 15mm Sky-Watcher eyepiece and 2X Barlow lens (266X) and Saturn, using the 12.5mm Ortho eyepiece (160X). (The 2X Barlow lens was from the Observatory's 90mm Coronado Solar telescope.) Emily McCullough operated the recently donated 8-inch (20.3cm) Meade Schmidt-Cassegrain (Tele Vue 26mm Plossl eyepiece, 77X), which had no power supply and had to be moved manually, showing people Venus and Jupiter. She also helped a young boy with his small

National Geographic, alt-azimuth mounted 50mm refractor to view the Moon.

Mark set up his 8-inch (20.3cm) Celestron CPC 800 GPS Schmidt-Cassegrain and showed people Venus, using 40mm Omni (51X) and 15mm (135X) eyepieces, and globular cluster M3 (135X). Peter Jedicke took pictures of the Moon and Saturn through the big 25.4cm refractor using his Samsung S4 smartphone. Western's Physics and Astronomy Department computer resources person and RASC member Henry Leparskas took pictures throughout the evening with his camera, including a group portrait in the dome of volunteers at the end of the evening. The Observatory was closed down by 11:35 p.m. after an excellent evening of astronomy slide presentations and observing through telescopes.

Cronyn Observatory Public Night, Saturday, May 30th, 2015

Cloudy skies and damp weather greeted 18 visitors to Western University's Cronyn Observatory Public Night, Saturday, May 30th, 2015, 8:30 p.m. Professor Els Peeters made her digital slide presentation "Carbon and Our Cosmic Roots" before an audience of about 10 visitors (including 1 child). There were 4 visitors—a couple with 2 children—in the dome. More people arrived later in the evening, bringing the total to 18 visitors. Els made her presentation, which was about buckyballs in space, briefly a second time for another interested visitor. (Buckyballs are spherical molecules of 60 carbon atoms.)

RASC London Centre was represented by Peter Jedicke, Tricia Colvin, Bob Duff, Mark Tovey, Dale Armstrong, Dave McCarter and graduate student and RASC London Centre member Emily McCullough. London Centre member Richard Gibbens was also there and listened to the slide lecture. Professor Jan Cami was "telescope operator" in the dome for the evening and Emily McCullough gave a telescope talk and demonstration of the big 25.4cm refractor. Since the weather was damp but not actually raining Emily opened the dome and directed the big 25.4cm refractor (32mm Erfle eyepiece, 137X) towards some nearby treetops, since the communications tower further south was obscured by haze. Emily talked to visitors throughout the evening and invited them to climb the observing ladder and view through the big 25.4cm refractor.

Emily had also set up the London Centre's 25.4cm Dobsonian (17mm Nagler eyepiece, 66X) inside the dome early evening and Tricia Colvin showed visitors the wind turbine on the Engineering building through this telescope from just inside the door to the roof patio. Dale Armstrong took pictures with his camera and tripod using a wide-angle lens, including several group portraits of the volunteers beside the big 25.4cm refractor in the dome at the end of the evening. The Observatory was closed down by 10:40 p.m. when the last visitors had left after an enjoyable and interesting evening of slide presentation and viewing through telescopes despite the cloudy, rainy weather.

Cronyn Observatory Public Night, Saturday, June 6th, 2015

Mostly clear skies with a few hazy clouds greeted some 110 visitors to Western University's Cronyn Observatory Public Night,

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Saturday, June 6th, 2015, 8:30 p.m. Graduate student Neven Vulic made his digital slide presentation "X-Ray Astronomy: No Lead Required" twice during course of the evening. Peter Jedicke counted 95 people before Neven's second slide talk and with later arrivals the estimated total came to 110 visitors.

Graduate student Nina Ivkovich was telescope operator for the big 25.4cm refractor in the dome and showed visitors Venus and Jupiter (18mm Radian eyepiece, 244X) and Saturn (28mm Meade Super Wide Angle eyepiece, 157X). RASC London Centre was represented by Tricia Colvin, Bob Duff, Mark Tovey, Dale Armstrong, Steve Gauthier, Peter Jedicke, and Harold Tutt. They were joined by London Centre member Roman Dubinski. London Centre member Richard Gibbens was also there and listened to the slide lecture.

On the roof patio Dale operated the Observatory's 8-inch (20.3cm) Meade 2080/LX3 Schmidt-Cassegrain (using various eyepieces) and showed people Jupiter, Saturn, the double-star Izar, the red giant star Antares, M13 and M57. Dale also showed a few people the orange and blue double-star Albireo in the Schmidt-Cassegrain. Tricia and Mark operated the second, recently donated, 8-inch (20.3cm) Meade Schmidt-Cassegrain, which had no power supply and had to be moved manually, showing people Venus and Jupiter (Tele Vue 26mm Plossl eyepiece, 77X) and later Saturn (12.5mm Ortho eyepiece, 160X). Steve operated the London Centre's 25.4cm Dobsonian and, amongst other things, showed people Venus, using the 17mm Nagler eyepiece (66X); Saturn, using the 18mm Radian eyepiece and 2X Barlow lens (124X); and Albireo. (The 2X Barlow lens was from the Observatory's 90mm Coronado Solar telescope.) Harold set up his 80mm Stellarvue Nighthawk refractor on a Vixen Alt-Azimuth mount on the grassy lawn behind Alumni Hall, showing a few visitors Venus, Jupiter and Saturn.

Bob gave copies of the newly received pamphlet "Getting Started in Astronomy" (RASC, SkyNews [2015]) brought by Peter Jedicke to a couple of interested visitors. Peter placed 2 boxes of "Getting Started in Astronomy" in the Cronyn Observatory basement storeroom and a few more in the map display case drawer in the dome.

Towards the end of the evening there was an ISS pass (11:05 p.m.) which was too far north to observe, and 2 Iridium flares in the west (11:08 p.m. and 11:17 p.m.), the second of which was quite bright. These were listed on the Web site "Heaven's Above." When most of the visitors had left Dale, Peter and other RASC London Centre members assisted Nina and Neven in redirecting the big 25.4cm refractor to view M57, M13 and M27. The Observatory was eventually shut down around 12:35 a.m. after an unusually late evening of observing under clear skies.

RASC London Centre Star Night, May 2015

By Robert Duff

Star Night, Ilderton Public Library, May 22nd, 2015

RASC London Centre Past President and Public Outreach Coordinator Dave McCarter had already set up his 254mm Dobsonian telescope beside his car on the driveway beside the grassy baseball diamond of Heritage Park just north of Ilderton Public Library when Bob Duff arrived around 7:30 p.m. for the Ilderton Public Library Star Night, Friday, May 22nd, 2015. Dave was talking to a small group of some 15 people including a library staff member who counted 61 visitors (30 adults and 31 children) before she left towards the end of the evening. However, there were 4 more arrivals after she left, bringing the total visitor count to 65. If we include the library staff member the count is 66 people.

Bob set up his 203mm Dobsonian on the field and was soon joined by Peter Jedicke, accompanied by Steve Gauthier, who set up his 145mm HD Maksutov-Newtonian Ceravolo telescope on a Celestron Losmandy equatorial mount. There was also one visitor who set up a Meade LightBride 12-inch (305mm) Truss-Tube Dobsonian. The sky was very clear and the temperature rather chilly but visitors enjoyed views of the Moon, Venus and Jupiter through the London Centre members' telescopes. Saturn was at opposition and was seen rising in the eastern sky after sunset. Bob showed people the 4-day-past-new crescent Moon in his 203mm Dobsonian beginning with a Meade MA25mm eyepiece (49X) and soon swapped in his 7mm Nagler (174.3X) eyepiece for a better view in the deepening twilight.

People also viewed Venus, Jupiter and later, Saturn, in Bob's 203mm Dobsonian (7mm Nagler eyepiece, 174.3X). Venus, appearing brilliant white at half-phase, and Jupiter was a splendid view with its 4 Galilean moons west of the planet. Saturn presented a turbulent image as viewed through the telescope rising low in eastern sky. Bob showed a few people the double-star Castor later in the evening, with the binary components nicely resolved in the 7mm Nagler eyepiece (174.3X).

Bob also tried combining his 2X Meade Barlow lens and 7mm Nagler for a magnification of 348.6X in his 203mm Dobsonian, but the views of the Moon and Jupiter were not as good on this occasion. Most visitors were gone by 10:20 p.m. although 4 more arrivals towards the end of the evening kept Peter and Steve busy as Dave and Bob packed up their telescopes and left before 11:00 p.m., after a very enjoyable evening of astronomy under clear skies.