NOVA
NEWSLETTER OF THE VANCOUVER CENTRE RASC
VOLUME 2014 ISSUE 4 JULY AUGUST 2014

2014 Victoria GA Report

by Gordon Farrell

I arrived at the marina in Langley at 7:45 Thursday morning. There I met our Secretary, Scott McGillvray, who had offered to take people to the GA in Victoria via his 32-foot Bayliner, a unique opportunity that was hard to turn down. We were joined by Suzanna Nagy (VP), Muguette MacDonald and Ken Lui (Dir. of Telescopes), and set out on our voyage to Victoria once everyone was aboard. This trip was weather-dependent (nobody wanted it to turn into *Gilligan's Island*) so we were fortunate that the poor weather finally broke just in time for the trip. Seas were calm as we crossed Georgia Strait and followed a ferry into Active Pass on our way through the Gulf Islands to Oak Bay. While I'm certain we're not the first to travel to a GA via boat, there's a good chance nobody has previously made the trip on a boat so small!

Gordon Farrell, Scott McGillvray, Suzanna Nagy, Doug Montgomery, Mugette MacDonald and Ken Lui

We arrived at the Oak Bay Marina around 3:30 that afternoon. Scott would be using his boat for accommodations, but the rest of us had to check in at the residences at UVic. The first item on the GA agenda was a barbecue at the Dominion Astrophysical Observatory north of Victoria. This wasn't my first trip to the DAO—I had a CO-OP job working in the Canadian Astronomy Data Centre up there back in the early 90s—but the place had changed a bit in those 20-or-so years. We travelled there via volunteer drivers from Victoria Centre, and I found myself sharing a car

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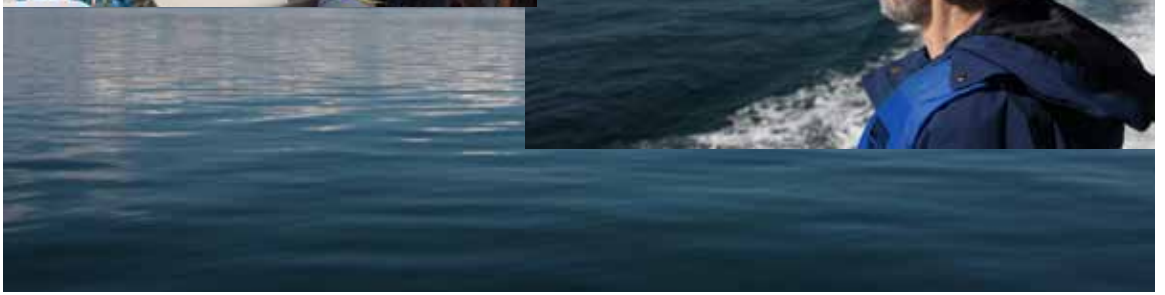
JULY 10 **SFU**
Dr. Phil Stooke of UWO: A Cartographer's Guide to Mars Exploration. Room SWH 10081. See Meetup for map.

NO MEETING IN AUGUST

SEPTEMBER 11 **SFU**
Dr. J.J. Kavelaars of the HIA and member of the New Horizons science team describes next year's Pluto flyby. See Meetup for details.

Cruising to the Victoria GA



Vice-President's Message

by Suzanna Nagy

The days and nights are warmer. The Summer Solstice has passed. The nights are slowly but surely getting darker earlier. The high season for observing is upon us. We currently have four planets in the night sky this month so if you start observing early and stay up late, you can view Mars, Venus, Jupiter and Saturn all in one evening.

The RASC Vancouver Centre is looking forward to seeing our members and the public at the upcoming summer star parties at Mt. Kobau (July 26 to August 3) and Merritt Star Quest (August 23 to September 1). Go to each event's website for more details.

However, with the recent donation of a solar telescope by Mr. Cal Mark, the number of solar telescopes that belong to Vancouver Centre is now two plus a solar projector that was purchased for the 2013 Venus eclipse. We are no longer limited to just night time observing anymore.

We have been putting these solar observing tools to good use. Most recently, members of Vancouver Centre attended Canada Day

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About RASC

The RASC Vancouver Centre meets at 7:30 PM on the second Thursday of every month at various locations in Metro Vancouver (see page 1 for meeting locations and page 4 for maps). Guests are always welcome. In addition, the Centre has an observing site where star parties are regularly scheduled.

Membership is currently $75.00 per year ($43.00 for persons under 21 years of age) and can be obtained by writing to the Treasurer at the address on page 5. Annual membership includes the invaluable Observer's Handbook, six issues of the RASC Journal, and, of course, access to all of the club events and projects.

For more information regarding the Centre and its activities, please contact our P.R. Director.

NOVA, the newsletter of the Vancouver Centre, RASC, is published on odd-numbered months. Opinions expressed herein are not necessarily those of the Vancouver Centre.

Material on any aspect of astronomy should be e-mailed to the editor or mailed to the address below.

Remember, you are always welcome to attend meetings of Council, held on the first Thursday of every month at 7:30pm in room P8445.2 of the Physics wing of the Shrum Science Centre at SFU. Please contact a council member for directions.

2014 Vancouver Centre Officers

President	Mark Eburne president@rasc-vancouver.com	**Past President/Telescopes**	Howard Trottier telescopes@rasc-vancouver.com	**Merchandise**	Leigh Cummings merchandise@rasc-vancouver.com
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				Trustees	Pomponia Martines J. Karl Miller

Library

The centre has a large library of books, magazines and old NOVAs for your enjoyment. Please take advantage of this club service and visit often to check out the new purchases. Suggestions for future library acquisitions are appreciated.

On the Internet

http://rasc-vancouver.com or
http://www.rasc.ca/vancouver
http://astronomy.meetup.com/131/
http://www.facebook.com/RASC.Van

@RASCVancouver

Mailing Address

RASC Vancouver Centre
PO Box 19115
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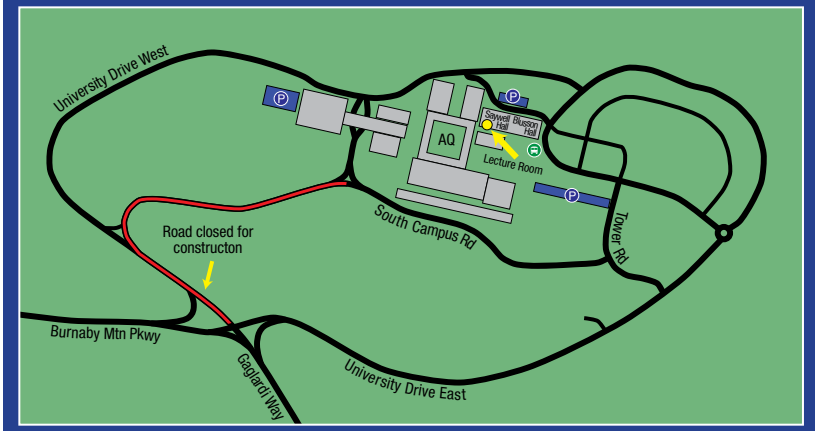
Maps to Meeting Sites



SFU

Our July meeting is in room SWH 10081 of Saywell Hall, indicated by the arrow on the map.

Pay parking is available at several locations around campus (indicated as "P" on the map).

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celebrations in Maple Ridge and 300 people looked at our Sun.

On July 19 and at the invitation of Metro Parks, Vancouver Centre will be hosting a dedicated solar observing event at Campbell Valley Regional Park in Langley. See www.meetup.com/astronomy-131 for details and we hope to see you there.

Here's hoping for clear skies. ✸

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with Eric Briggs from Toronto Centre. He had recently purchased a 3D printer and has brought with him a bag of goodies he had made with it. I reached in and grabbed a model of the Keck mirror in blue. He also had TMT mirrors in yellow and various other less astronomical (but equally geeky) items to choose from, many of which could be seen pinned to attendees over the course of the GA. Here we also bumped into fellow Vancouver Centre member Michael Levy.

Dinner was held on the patio adjacent to the Centre of the Universe. As many are aware, this facility was shut down by the federal government last year, but Victoria Centre has managed to raise enough money to reopen it for several weekends over the summer, which was good to hear. Dinner was followed by a panel discussion on the history of the 72-inch Plaskett Telescope at the DAO and a tour of the telescope itself following the presentation. Not much had changed inside the dome since I had worked there as a student (no great surprise) and if the weather had been clear they would have run the scope (though they did open the shutter). While I was snapping away with my camera, someone offered me his fisheye lens so I could take a few shots that fit the whole scope in the frame (I wish I got his name to thank him). There was also an open house for the scope Victoria Centre has on the mountain, but it had been a long day so I grabbed the next available car back to the residences.

The Plaskett Dome. shrunk down, sweetened and ready to eat

For those of us not on the

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On Starry Trails with John Dobson

by Bill Burnyeat

John Dobson? Just an inventor, astronomer, philosopher, telescope maker and amateur cosmologist; he's also a snake hunter like Hercules and over his long life he's tackled more than his share of petulant Hydras, raging lions and cringing, three-headed dogs.

I met John years ago—how many exactly, I don't recall, and it doesn't matter. Time, along with its cluttered sidekick Space, may be an illusion, says John, just another childish bias like my son's horror of red foods (unless ketchup). So, if the dates in this item don't match reality, that's okay with John. Why should anyone else complain?

I was getting up late from my bunk in the Community Astronomy telescope truck—a big Ford, custom made to haul and support large telescopes. The first thing I did was to look out the window into the Mount Kobau sky. It's brighter than blue, a kind of dark cobalt colour; it gives the impression, experienced long ago, that the sky is crowded with substance, dense and dark with pigment, a firmament, not an airy nothing, while at the same time it's dazzling, so blue that it's strongly dark and bright at the same time, and tempts one to scan the sky for signs of concealed constellations before adjusting the vision to the prosaic ground, littered with ragged weeds.

The night before, I had been watching galaxies with many others and, although John was there, I hadn't bumped into him in the dark. Now with the star of day high up, the first order of business is coffee. Behind the truck, perched on a rock with a flat surface that served as table, was the Coleman stove. The silver kettle usually stood over one of its twin burners but it was definitely absent from its place. I stood scratching my head in wonder. Had someone run off with our water kettle and was now lounging with unearned caffeine in hand? I scanned the neighbourhood, but all I could see were tents and trucks and tarps covering large tripods and even larger tubes. The scene in a Mt. Kobau morning is like an army camp with tarps concealing mighty cannon barrels awaiting an order to pack up and begin a fresh campaign.

So, unable to find the kettle, I stood looking up at the bright sky. Something else was bright and caught my eye. Up on a pile of rocks was the kettle. It was sitting alone up a sort of cliff, a local high point on the mountaintop peak. Five minutes later, I was at the kettle and looking down over much of the camp. Then I saw a skinny guy in the midst of a group who were standing still. This guy was jumping around and shouting and waving his hands. He was yelling at me, saying leave the kettle in its spot and don't move it. I took the kettle and climbed down the hill, since before coffee I don't follow instructions. The skinny guy was John Dobson. He admitted taking the kettle which he was using as an artificial

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Membership has its Privileges!

New members, did you know? The Vancouver Centre has 8 telescopes available for loan free of charge! We have telescopes ranging from 60mm to 10" diameter. For more information see the Director of Telescopes after the members meeting. The loaner period is for one month, to be returned after the next meeting. Telescopes are not allowed to circulate outside of these meetings. You can now reserve two different telescopes per year and use what is left at the end of the meeting anytime.

Your greatest opportunity as a member of the RASC is to take advantage of the company of other enthusiasts to increase your knowledge, enjoyment and skill in astronomy.

The best thing you can do to gain the most from your membership is to get active! Take in the club meetings; engage other members with questions; come out to observing sessions (also known as "star parties"), and, by all means, volunteer to take part in our many public events.

For the usual observing sites and times, visit our website at http://rasc-vancouver.com/observing-sites/ or contact the Observing Chair at observing@rasc-vancouver.com.

Upcoming Events

July
19 – Solar Observing at Campbell Valley
July 26 - Aug. 3 – Mt. Kobau Star Party

August
9 – Perseid Observing at Aldergrove Park
16 – Starry Night at Deas Island Park
23 - 31 – Merritt Star Quest

December
11 – AGM

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star target. He was testing a telescope mirror that he had ground, polished and figured in the few days he had been up the mountain.

So that is how I met John. In the years following, I met John fairly regularly. British Columbia was one of his spots. He would come into town, lecture, build, polish, give advice and observe. Then he would go to his next destination. This tour was not a part-time venture but a way of life. John wrote no great opus magnum, although he encouraged others to write. Instead, he's like Dr. Johnson, of whom it was said his life was his work. No other name is emblazoned across the landscape of popular astronomy as much as the name of John Dobson.

While its true that the swivel-mounted Newtonian reflector he invented is the first thing that comes to mind, this scope is a tool and not, as has too often come to be, an end in itself. The end means going places and looking at things.

Stake Lake is nothing to write home about. It's a large pool enclosed by mud-terraced beaches set in a wilderness of rambling tracks and narrow roads. These paths don't go anywhere, but that's the perception of summer. In winter they make sense as cross-country ski trails. Dull brown cows wander around mooing at the empty air. Next to the motor home is a large tarp covering a shape that is almost but not quite like the nothing, browsing on sickly looking scrub and leaving their disk-like calling cards in the dust. The lake is a fair drive out of town on a good highway.

This vague and inexact description—a Stake Lake without any precise stake locating it, without numbers or precision in the directions of how to get there—wins the approval of John Dobson. I can see him pointing with his boney finger to this paragraph and saying, "that's the Cat's meow." He said things like that.

There's another "John Dobson style" conceit hidden in the first paragraph. It's mainly not true. It's a series of plausible propositions gauged and strung together as a substitute for paying attention to the elusive lake. That's not a surprise because John Dobson believed most things written are wrong. And the most erroneous things written, excepting pure propaganda, are written by astronomers who look at a rope and think they see a snake.

So, as a corrective, I recently went once more to Stake Lake in order to rewrite the former paragraph. It was September 14, 2013, and John was born 98 years ago this day. Happy birthday, John. It turned out to be his last birthday but I didn't know that at the time. Then, I suppose John would have said everyone has a last birthday.

Now I'm really at the lake and I'm paying attention. Near the shore is a large flat slab of granite, with large crystals in its structure. The rock formed deep underground and had time to slowly cool. Why is it up here at the edge of a lake? I don't know. It forms an observation platform on which the whole lake is on display. It turns out the lake is a lot more inviting than the initial description would suggest. It is about a mile long and a bit narrow. One local said it was the shape of a sirloin steak, but someone else pointed out that the two words are spelled differently and refer to different items. The slab of meat fellow didn't argue so the next guess

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was some local person named Stake christened it. I suggested that a survey stake was planted here and some that was the lake's moniker. Things are often named for very prosaic reasons. A stream near Princeton is called Friday Creek because it had to be given a name for the maps and it was Friday. Christmas Island, south of Java, was so named because it was sighted by the English ship Royal Mary as the crew was observing Christmas Day services in 1643.

The observatory on the shore of Stake Lake

The shore of Stake Lake, in the British Columbia interior, is fringed with grassy thickets set in marshy pools which look out at clear waters. A small, enclosed-cabin boat sits toy-like with a sometime angler absent, or at least invisible. The lake must have a somewhat variable shore line, for at its watery fringe are some dead trees, spindly, with bits of bark peeling away and they stand blankly like those children dressed as trees in cardboard cut-outs in school plays that we attended because our pride and joy was taking part. The far shore of the lake shows a tantalising fringe of pines and higher-altitude firs, some junipers too, that get darker with density and end in darkness. Turning halfway around, I can see, complimentary to the toy boat, a mini Mt. Palomar white dome shining in the low sun. A small, green boardwalk sets off the observatory with an 11-inch Schmidt-Cassegrain telescope out of sight within, like a metal crab tucked inside a shell.

These two differing verdicts on the lake are like the disputations of astronomers who, all looking at the same universe, come to differing conclusions. Its John's thesis that we fall into mindsets, with the encouragement of institutional restraints, that pre-set the cognitions and lead to conclusions about the cosmos that turn obvious ropes into complex snakes. Much of our analysis and energy, according to John, is involved in trying to list the properties of fictitious entities.

With John it was the force of his arguments, good bad or indifferent, that carried the day. He seemed to persuade by energy. It was said of Socrates that his opponents were not convinced but convicted. At the heart of the matter was his insight that the telescope allowed people to see the universe they lived in. Without telescopic sights we see only the tiny field of view within our naïve sight. The telescope allows a front-seat view to perspectives that we can never witness without aid. The first name of the telescope, the "perspective tube", was probably the best. Milton's "glazed optic tube" is good too, although this always makes me think of a glazed donut.

How does one get to be a John Dobson? Just as nebulae, spots on Jupiter and ringed plains on the Moon all require description, as a preface to explanation, so just a little biography is needed to understand this one.

John Dobson was born in China where his father taught

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The Patriotic Triple and Other Cygnus Treats

by David A. Rodger

Forget galaxies!

Okay, so that's a bit over the top. There are galaxies I can see with a refractor in the city. M31 in Andromeda and M81 and M82 in Ursa Major come to mind. But my 127mm *f*/5.2 refractor's strength in deep sky observing is to be found among the double stars and star clusters generously sprinkled across the sky. I get much more enjoyment when I point the tube their way.

I could spend the entire season exploring the attractions of the Cygnus region. For example, there's the beautiful double star Albireo (Beta Cygni). I never tire of gazing at this blue and gold pair in my telescope. Cygnus' two Messier clusters are impressive, too. There's M29, the principal stars of which my wife Sharon calls "the cow's face." And there's M39, a well-populated star cluster in the northern region of Cygnus. I've seen the subtle strands of the Veil Nebula in my refractor, but only when I've attached

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Zoology at the university in Peking. He was born in 1915 during one war and educated in the US in 1943, the midst of another; John's early life was framed by the two most destructive wars ever.

A wartime employee of various government schemes, which included projects such as the making of an atomic bomb, John became a renegade against the established way in which science gets done. The war was a time of the wholesale employment of science in the service of mass slaughter. After the war this just continued, with no let up, and as an additional task, science would work a double shift making an endless stream of trivial and vexatious things demanded by the whim-driven consumer society.

That's enough biography. The most significant event in the making of John Dobson happened years later. He had made a 12-inch telescope by grinding and polishing a port-hole cover and the telescope made out of salvaged wood, and turning the sizable box and tube towards the third-quarter Moon, John looked into the eyepiece. He thought: "Everyone has got to see this." Really, this is what the whole thing amounted to. John Dobson, a penniless monk in a marginalized Californian religious order decides right then and there that all the people on the planet have to see through the telescope. To see where we are in the universe; to be the fish that pokes its head out of the water and sees a star; the ant that perches on its dung hill to detect what is blowing in the wind from the next dung hill; the frog that climbs the stalk and views froggy infinity in the next pond.

It's an ambitious project and one that John kept up well past the age of 90. Once I had given a star talk at the Kokanee Creek Provincial Park nature facility and after the slides were put back in the box I hurried down to the parking lot where the big Dobsonian telescopes were set on the lot. A sizeable crowd was in evidence. I set one of the scopes on a star cluster and John upended the other, picked out the Ring Nebula M57 and we went at it. Two long lines of people sprouted out from the ladders. There was John Dobson. Each observer came up and John sort of sized them up. Then he said something about the object that would make sense to them based on his long experience in dealing with people at the eyepiece. He had something fresh to say to one and all—at the telescope you must never fall into a pattern of repeating yourself, since the people down the line will hear you and if you address the same remarks to them they sense that they are not being addressed as unique and that they are not important enough for the observer to think afresh upon meeting them. He kept up these perpetual mental gymnastics for a couple of hours until the line had dwindled.

The telescope is only a tool, not the end, and its round field of view takes in the cosmos. Cosmological thinking is something John has done and his unique persona naturally gives a

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an OIII filter to a low power, wide-field eyepiece. The Veil is not an easy urban sky object by any means. On the other hand, I can't count the many hours I've spent with a modest pair of binoculars slowly scanning the Milky Way as it meanders through Cygnus. And then there's "Ruchba."

You might not have heard of Ruchba, at least not by that name. In Arabic, according to Richard Hinckley Allen in his monumental *Star Names: Their Lore and Meaning*, it means "the bird's knees." (There's a similarly named star in Cassiopeia, where it refers to her knees) I enjoy looking at Cygnus' Ruchba. It's a wide, naked-eye double star lying just above the mid-point on an imaginary line between Deneb and Delta Cygni. On modern star charts, the pair is usually designated as Omicron-1 Cygni and Omicron-2 Cygni. Other charts may identify them by their Flamsteed numbers—30/31 Cygni and 32 Cygni. (RA: 20h 13.6m; Dec: 46° 44m north)

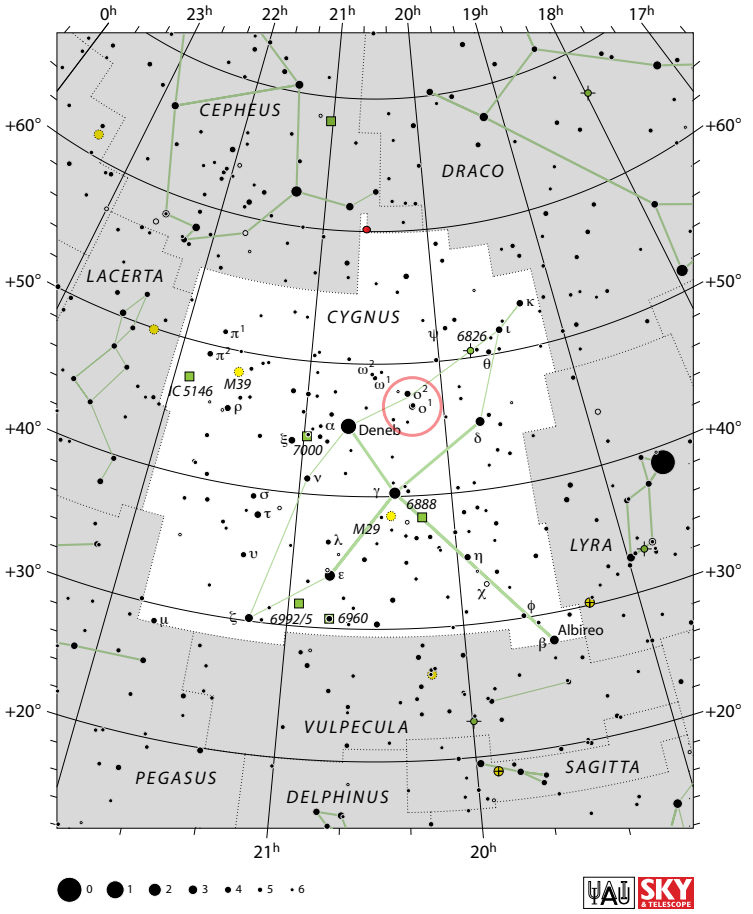
Let's focus on o^1 (30/31 Cygni, circled on the map below). Using low power, I see three stars in the shape of an imaginary hockey stick. In one of my favourite books, *Celestial Objects for Modern Telescopes*, author Michael Covington notes the distinct colours of the three stars—red, white and blue—and dubs them "the Patriotic Triple." The Philadelphia Flyers' virtual anthem singer Kate Smith would be proud.

How sharply delineated these three stars and their distinctive colours appear will depend on the telescope, of course. I first noted the trio in my 100mm (4-inch) Orion refractor several years ago, and saw the 4th magnitude red star as ochre—the colour of Mars when it's far from opposition. The slightly fainter white star is 330 seconds of arc away, according to Covington. The blue component is the faintest, at 7th magnitude. In my 127mm (5-inch) refractor, those colours are confirmed.

Double star experts, such as James Mullaney and Sissy Haas, seem to agree that, notwithstanding the appeal of the Patriotic Triple, this is just a chance alignment. The trio, in other words, is not a true multi-star system, but three unrelated stars that happen to lie in the same area when viewed from here. In his *Celestial Handbook*, Robert Burnham Jr. lists their distances from Earth as 107, 338 and 36.6 light-years respectively. Ironically, the faintest star is the one closest to us.

When people crowd about your telescope on summer evenings asking for a peek, show them the Patriotic Triple. They won't be disappointed. ✸

David A. Rodger was the first Director of the HR MacMillan Planetarium in Vancouver (1967-80), and is a life-long amateur astronomer. He observes the sky from his North Vancouver townhouse.



Map credit: IAU

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Board or Advisory Council (like our National Rep., Doug Montgomery), Friday had nothing on the schedule until 4pm. After bumping in to Howard Trottier (Past President) after breakfast, I joined Suzanna and Ken for a day trip to Victoria to check out the Vikings exhibit at the Royal BC Museum. The exhibit consisted mainly of small trinkets and historical displays, and one of the interesting facts mentioned was that the Vikings called their community meetings "things." Next up was a walk inside the Legislature (alas, no politicians were present to harass). It was a bit wet that afternoon, but things did clear up before it was time to head back to UVic.

The Plaskett Medal Lecture was given by this year's winner, Andy Pon, on the subject of *The Orion and Eridanus Superbubble*. This was a unique lecture, in that Pon was in England and gave the lecture via the internet. This did make for some amusing glitches during the presentation, but it generally worked rather well. The lecture was followed by a wine and cheese reception and an evening of music at the campus pub. The weather didn't cooperate, however, so the night sky viewing at the campus telescope was cancelled (this is the west coast, after all).

Saturday was filled with short paper presentations on a variety of subjects. First up was *The 12 Moons of the Mi'kmaw Calendar* by Davis Chapman of Halifax Centre with Cathy LeBlanc of the Acadia First Nation, which described the traditional 12-month lunar calendar of the Mi'kmaw and the possibility of a 13th moon that was occasionally used to keep the calendar in sync with the seasons. Next up was Dave Clark of London Centre, describing his Ph.D. thesis work on *Dynamic Modelling of Meteoriod Streams*, which contained some impressive simulation videos. This was followed by *The Story of the Gaseous Sun* by Alan Batten of Victoria Centre, chronicling the evolution of our understanding of the Sun's true nature over the last 200 years, and Elizabeth Griffin, also from Victoria, with her talk, *We are Not Alone—and I'm not actually referring to Space*, which described the challenges of preserving historical, analogue data for the digital age. The final talk before the coffee break was on *CASTOR: A Proposed Canadian Space Telescope*, by Patrick Côté of CASCA, describing a possible space telescope similar in capability to the Hubble but with a much wider field of view.

The 72-inch Plaskett Telescope inside its dome

Coffee was followed by Karen Mortfield of Toronto Centre presenting *David Dunlop Observatory – An Alternate History* which looked at historical documents that show, among other things, that

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the DDO was nearly the new home of Ireland's Leviathan of Parsonstown, and Paul Mortfield, also of Toronto, on *Bringing the Largest Telescope in Canada Back to Life*, which described the daunting task of turing the ageing DDO observatory into a vibrant facility for public outreach and research. Next up was Robert Dick of Ottawa Centre with *Red Light or Amber?*, where he proposes that amber light, rather than red, can be used to more effectively illuminate items with less power than red light while preserving night vision. The final presentation of the morning was *Planet Formation in the Beautiful Orion Nebula* by Rita Mann of CASCA, where she described her use of the ALMA array in Chile to observe protoplanetary disks in the Orion Nebula.

Scott gives the 32-inch UVic scope the thumbs-up

The afternoon session began with Nathan Gray, probably our youngest speaker at age 10, on his discovery of a supernova late last year, three years after his older sister, Kathryn, had also discovered a supernova at the same age. It's good to see the future of astronomy is in good hands! The unenviable slot following Nathan was filled by James Di Francesco of CASCA on *New Insights into Star Formation from the Herschel Space Observatory*, where their team has been using Herschel to examine the sky in unprecedented detail in far-infrared and submillimetre wavelengths. Next up was *Building the Okanagan Observatory* by Colleen O'Hare of Okanagan Centre, talking about their impressive efforts to build a observatory and outdoor amphitheatre for public outreach. The last talk before the break was by RASC historian Randall Rosenfeld (who I'm sure could have had a career as a radio announcer in the 1940s), entitled *Inviting the right aliens to tea – The state of the question at the Victoria Centre, 1931*. Here he described a symposium held in Victoria Centre back in the 30s and offered an interesting insight to the thoughts on the matter 80 years ago.

The first talk after the break was *Journey Through the Universe outreach program: Astronomy "volunteerism" on the Big Island of Hawaii* by Janeane MacGillivray of Victoria Centre, detailing her work as a volunteer JTTU Ambassador in 2012 and 2014 (see www.gemini.edu/journey for more information). Next up was Richard Schmude of Kingston Centre (via Georgia, USA) on *Mars Activity in 2013–2014* where he detailed his observations of Mars during this period, including some interesting brightness measurements in the near-infrared, followed by Michel Michaud of Victoria with *An Investigation of Binary Stars in the Pleiades*, a chronicle of his efforts to evaluate double-star candidates in the Pleiades, including provisional orbital elements for some of these pairs. The penultimate talk was *Adventures of Two Amateur Astronomers in Namibia* by Miles Paul of Victoria, describing their regular visits as resident

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astronomers at the Sossusvlei Desert Lodge in the Namibrand Nature Reserve (which is also Africa's first International Dark Sky Preserve). Finally, we had Dennis Crabtree, CASCA member and Acting Director of the DAO, presenting *Astronomy:*

What secrets lie behind that smile?

(what west-coast GA would be complete without one?). But this was just a brief respite before that night's Hogg Lecture. This year's presenter was Dr. Laura Ferrarese, President of the Canadian Astronomical Society, with her talk, *The Secret Life of Galaxies*. A public lecture, this was easily the best-attended talk of the GA, covering galaxies, dark matter and dark energy, the origins of globular clusters, and how they relate to dark matter (most globular clusters contain no dark matter).

The evening was supposed to conclude with observing, but, as usual, we were clouded-out. Instead, we were given a tour of the dome atop the Bob Wright Centre and its 32-inch telescope. There's also a dome atop an adjoining building, but I can't say what it contains. I can say the other dome likely draws more attention, by virtue of having a smiley-face emblazoned across it. Curious...

The final day of the GA began bright-and-early with the AGM itself. The meeting was uneventful, with the new council elected by acclamation and James Edgar of Regina coming in as the new President. If roll-call was any indication, Vancouver was the best-represented centre at the GA, with 8 members in attendance (Dan Collier was also at the GA, and would have been the 9th were he not there unofficially). Once the AGM was complete, those of us not on the board or advisory council were free until the mid-afternoon.

The Royals do the rounds, first with incoming National President, James Edgar...

It was a sunny afternoon, so I took the opportunity to walk the Ring Road around the UVic campus, eventually coming across a couple of fellow RASCals with a Coronado PST and took the opportunity to observe some impressive prominences. I must say UVic has a beautiful campus, in a park-like setting near the ocean. I could even see the Gulf Islands from my room in the residences!

The afternoon gave us a chance to peer into the world of the professional astronomers via a panel discussion entitled *2020 Vision – New Projects for the Next Generation of Canadian Astronomers*. The panel began with short presentations on various projects, including CASTOR (the aforementioned Canadian space telescope), the Square Kilometre Array, the Cerro Chajnantor Atacama Telescope, the Mauna Kea Spectroscopic Explorer/Next Generation CFHT (an intriguing proposal to retrofit a 10m telescope into the existing CFHT

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dome), the Canadian Advanced Network for Astronomical Research (cloud computing for "big data"), and the Thirty Metre Telescope. This was an interesting discussion with a number of takeaways. First, it's more likely Canada will participate in the NASA-lead ATLAST project than build CASTOR. Second, while the Canadian astronomical community generates these plans every 10 years, their 2000 plan was far more successful than their 2010 plan. And finally, the federal government has yet to commit the promised $300 million for TMT, which is perhaps symptomatic of why the 2010 plan thus far failed to meet many of its goals. The message heard several time during the GA? If you want the federal government to commit money to astronomy, write your MP and tell them so.

...then with a somewhat reluctant Doug.

The GA wound up that evening with the traditional group photo and banquet. As this was also Victoria Centre's 100th anniversary, we has special guests join us for the photo and dinner—Her Majesty, Queen Elizabeth II and Kate, the Duchess of Cambridge (well, their doppelgängers, at least). The dinner was followed by a presentation by the Halifax Centre for their upcoming GA next year (which I hope also explained the appearance of Darth Vader playing the fiddle before dinner, otherwise I'm at a loss) and a talk by Bob McDonald, host of the CBC's *Quirks and Quarks*, on Space Tourism, including what's currently available to those with deep pockets (or their own radio show) and what the future may bring. Bonus points go the the Halifax team for their *Space: 1999*-themed video!

The final event of the GA was the presentation of awards. This was a highlight for Vancouver, with our own Howard Trottier winning the Qilak Award for Astronomy Outreach and Communication. Congratulations, Howard!

While the weather had finally cleared to allow some night sky viewing, I had an early boat to catch the next morning, so I opted instead to hit the sack so as not to be bleary-eyed the next morning.

After checking out Monday morning, we all headed off to the marina to meet Scott for some breakfast prior to pushing off for the mainland. Dan joined us for the return trip, and the weather was incredibly calm as we headed out that morning—the ocean was almost like glass, with the clouds reflecting off the placid waters. Since we had no need to arrive at a specific time, the trip back followed a more leisurely pace. The first detour was to follow a small but elusive pod of porpoises. We did see the odd one surfacing for air, but after half an hour or so we gave up the chase (alas, no pictures). Once lunchtime rolled around, we stopped over at Montague Harbour on Galiano Island (one could get used to this lifestyle). After lunch, we took a different route through Portier Pass, making for a shorter crossing of Georgia Strait (a better choice, as afternoon winds tend to be

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stronger). Crossing the pass offered a bit of excitement—the quick-moving tide made for a stretch of whitecaps that pushed us around a bit (a smaller boat nearby turned back), but we got through unscathed. Crossing the strait was rougher than the trip to the Island so there wasn't much time spent on the deck. This was likely for the best on my part, since by then I had a wicked sunburn on my arms (turns out the cool breeze on a boat is deceiving—wear your sunscreen, kids).

We arrived back at Langley around 7:30pm, hauling our bags back to our cars (and real life) as Scott stayed behind to take care of the boat. A big thanks to Scott for letting us join him on his boat—it was a great trip!

All in all, it was an excellent RASC thing! ✸

Howard Trottier with his Qilak Award. Congratulations, Howard!

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unique perspective on the night sky and the universe.

Suppose we want to take a picture of a star cluster. Nothing is easier. The camera is pointed at the cluster and there you have it. The cluster is a thing within space with a border separating it from surrounding space. Now suppose we wish to take a picture of the whole universe. Since the universe contains all things the camera that takes the photo must be in the picture. Then, the picture that is taken must be part of the picture and the picture of that picture and so on into infinity. Conclusion? The universe can't be photographed.

John sees similar enigmas at the heart of the big bang. It's a backwards theory starting with non-being and generates being. John would like to start from being. He sees the universe as a project undergoing a large cycle rather than the one-shot deal currently in fashion.

How does one get to be a John Dobson? His origin or beginning came in 1944. A long line of government and military workers was lined up in a queue. John was invited to join as well. He decided it wasn't for him so he ran away, as fast as his legs could take him in the exact opposite direction. He ran until he got to the Vedanta Monastery in San Francisco. He was a monk of the Ramakrishna order for the next 23 years. His absence from the line wasn't noticed since he was only one and the line was so long. So, one by one, all the others went in and a process both subtle and complete took out their hearts of flesh and put into each a heart of stone. ✸

Stopping for lunch at Montague Harbour on Galiano Island on the return trip