SKYNEWS

Saturday night under the skies at St Stephen's, photo by Joe Carr

Stellar Festival

Star parties are special events for amateur astronomers. After a year of doing numerous days and nights of public outreach in the community, this is the event that's for us. Of course the general public are invited too, but star parties are first and foremost an event to celebrate everything that is amateur astronomy. It's also why they're supposed to be held on a weekend that coincides with the new moon. This summer, with all the new moon weekends landing on holiday long weekends until late September, we followed the rule of "don't schedule a star party on a holiday weekend" and held our event a bit later in the year than is the norm.

Planning for these events is extensive and detailed. Hosting a star party is a bit like planning a dinner party that will be attended by professional chefs. Most of the people coming to your event are from the amateur astronomy community and a good number of them have been to dozens of star parties over the years. It takes a lot of people's efforts, taking responsibility for a lot of small details that are often overlooked, unless they're done wrong. Eighteen of your fellow RASCals stepped up as volunteers to make this year's star party a success. Whether it's the door prize you feasted your eye on or the burger you actually feasted on, someone took the time to make that happen.

The torrential rains (seen left) that greeted volunteers setting up on St Stephen's field on Friday were bad but quite not so bad that we spent our time filling sandbags to save the field. The poor weather certainly had an impact on the public turnout for the first evening. This was a shame, since so many people missed Dr. Chris Gainor's excellent lecture on Apollo 11, which focused on the Canadian contribution to the Apollo program. The weather's effect on attendance probably had a lot to do with me winning the main raffle prize of the evening, a generous gift basket from Butchart Gardens. By the end of the lecture, the rain stopped falling, but the clouds stayed put, teasing observers with an occasional sucker hole. Those who were camping on the field for the weekend turned in for the night. After a day of rain, it was definitely a damp, cold evening out on the field. The sky eventually began clearing and by 8:45pm, about two-thirds of the clouds cleared away. I was out alone in the field with a pair of binoculars, looking at star clusters for about forty-five minutes. Then the sky became hazy and the clouds moved in again.

Saturday was a beautiful day for a StarBQ! Chef de Cuisine, Deborah supervised the grills and food preparations for the hungry masses. After dinner, we went to the hall for some door prizes and a lecture. There were two telescopes given away, one of them an older Maksutov-Cassegrain from the Philip Teece estate. Rounding out our main prizes was a pair of Skymaster binoculars from Quarky Science and some framed astrophotographs by John McDonald. The hall was packed full of both amateur astronomers and members of the public for Dr. Robert Beardsell's lecture on archaeoastronomy. Afterwards, we all stumbled out into the dark skies over the peninsula, with just enough open sky to do a bit of observing before once again the clouds came between us and our night sky observing. I managed to get some nice views of the Andromeda Galaxy through my binoculars and Saturn through Mike Krempotic's 14" Dobsonian reflector. Mike is a regular at both the RASC and Cowichan star parties over the years, bringing with him his experience as an observer and telescopes of unusual size, all the way from Port Alberni. As the clouds continued to roll in, RASCals began collecting in small groups to socialize and helping themselves to the coffee bar provided.

On Sunday, it was time to pack up our tables, supplies, and modular gazebo into Ken Mallory's truck and drive it all back for storage on Observatory Hill. I returned to the field with my telescope in time to set up for some solar observing with the church congregation, but once again the weather was uncooperative. I dropped off the building keys with the caretaker and he hopes to see us again next year. I was able to make good on my promise of better weather than last year - mostly owing to the unlikelihood of a tornado - but like so many other public outreach events this summer, the weather just wasn't on our side. Next year, mercifully, the new moon weekends of summer don't all fall on any holiday weekends, so we'll have a lot more options to choose the date for the 2020 RASC star party.

Bruce Lane

Aerial View of the RASC Victoria Star Party field at St. Stephen's, by Joe Carr

Editorial Remarks

I know what you did last summer. Well, I know what some of you did for at least some of the time, due to running into you at public outreach events, seeing you up at the VCO, or from your posts on social media. For the most part, the weather in June and July was less than optimal for astronomy, particularly the clouds during our RASC event at Cattle Point to commemorate the Apollo 11 mission. The *Febuly* weather ended just in time for the 50th anniversary of the Apollo 11 landing on July 20th, celebrated at the Saturday Star Party on Observatory Hill.

More cloudy weather came, just in time for our yearly public outreach event we do for Parks Canada on Fort Rodd Hill. It was still an enjoyable evening out by the sea; with blackberry ice cream, hot chocolate, and the music playing. Having the Cowichan Starfinders host their star party on the Labour Day weekend, while so many members of RASC Victoria were volunteering at the Saanich Fair, was an issue for many of us who regularly take part in both activities, myself included. The weather was once again less than favourable at the Bright Angel Park star party, this year due more to rain

than wildfire smoke. The weather once again abused the notion of RASC Victoria having clear skies for our annual star party, but at least nobody can say the weather wasn't consistent.

In this lunar themed issue of *SkyNews*, we'll have more recaps from our Centre's activities this summer, a historical article on Apollo 11, as well as all the astrophotography and articles you've come to expect from the *Victoria Centre SkyNews*.

Bruce Lane: SkyNews Editor

President's Message for October

As a baby boomer I feel very fortunate to have lived before the development of adaptive optics, the era of the Hubble Space Telescope, and Voyager's mission to the outer planets. Blurry vision concealed the secrets of the solar system and we were engulfed in an aura of mystery. Then in 1964, Gary Flandro, a Jet Propulsion Laboratory (JPL) engineer realized that the planets were in a rare alignment that would enable a momentum robbing technique to conduct a Grand Tour of the Solar System. The Voyager mission arose from Gary's vision and rendezvoused with Jupiter in 1979, Saturn in 1981, Uranus in 1986 and Neptune in 1989. This mission enjoyed a spectacular success and each encounter dramatically transformed and improved our understanding of these planets. What a treat for the astronomical community … both professional and amateur. It was like watching a fascinating sporting event unfold in slow motion. This was before the era of High Definition TV and the instant communication of the Internet. I remember eagerly awaiting for the arrival of the next issue of *Sky and Telescope*, then pouring over the stunning imagery, and reading about the discoveries detected by the array of instruments.

So, perhaps you will understand my excitement when JPL scientists, Linda and Tom Spilker, address our meeting on Wednesday, October 9th. Not only did Linda and Tom have front row seats on the Voyager Mission, they got to turn some of the dials as well! As is often the case, the Voyager mission generated more questions than answers. Linda was deeply involved in the remarkably successful follow up mission to Saturn called Cassini. As the Cassini Project Scientist she will update us with some of the latest findings of that mission.

Tom Spilker is a Space Mission Architect. It would be difficult to invent a more exciting job title! He currently works with space agencies around the globe and has participated in the Voyager, Cassini, Genesis, and Rosetta missions. In addition to sharing findings of these missions, I hope that Linda and Tom will be able to convey what it is like to be involved in such exciting and important missions of discovery. If you think that some of your friends might find this evening of interest please invite them along. There is no admission charge. In anticipation of a larger audience we have moved the event to Flury Hall in the Bob Wright Centre at UVic. We hope to see you there at 7:30PM.

A more modest event held locally had its own element of excitement. For the second year in a row we held our Victoria Centre Star Party in the serene yard of St. Stephens Anglican Church. Last year, within 5 minutes of erecting my brand new, second hand, Kendrick astronomy tent (seen left) the first rain in 7 weeks began falling. It seemed more promising this year and on Friday afternoon I

arrived in the church yard in a sun beam. Within 10 minutes, however, hail was bouncing off my car and a deluge of biblical portions followed. We received one quarter of the normal September rainfall in one hour! Perhaps the “committee aloft” that controls things was sending me a message.

Never the less, we persevered and a beautiful Saturday afternoon graced our “StarBBQ”. This was perhaps the highlight of the weekend and thanks to Deb Crawford and her team of flippers for making it happen. The sunshine seduced many RASCals into set up scopes. We were, however, stabbed in the back by Friday’s storm and in a returning circulation it

delivered cloud from Idaho over the church yard Saturday evening. Being swaddled in clouds kept conditions mild and the dew at bay. Around midnight, there were still several pockets of RASCals participating in discussions on a wide range of

topics. If we had experienced clear skies I imagine that many of those same RASCals would have retreated to their own scopes and resumed observing in isolation. It takes a lot of time and energy to put on a Star Party and I would like to thank all the volunteers who lent a hand. Thanks also to Dr. Chris Gainor and Dr. Robert Beardsall for delivering their interesting evening presentations. In particular I would like to thank Bruce Lane for planning this event, and effectively recruiting and directing RASCals.

Cloud Free Nights

Reg Dunkley

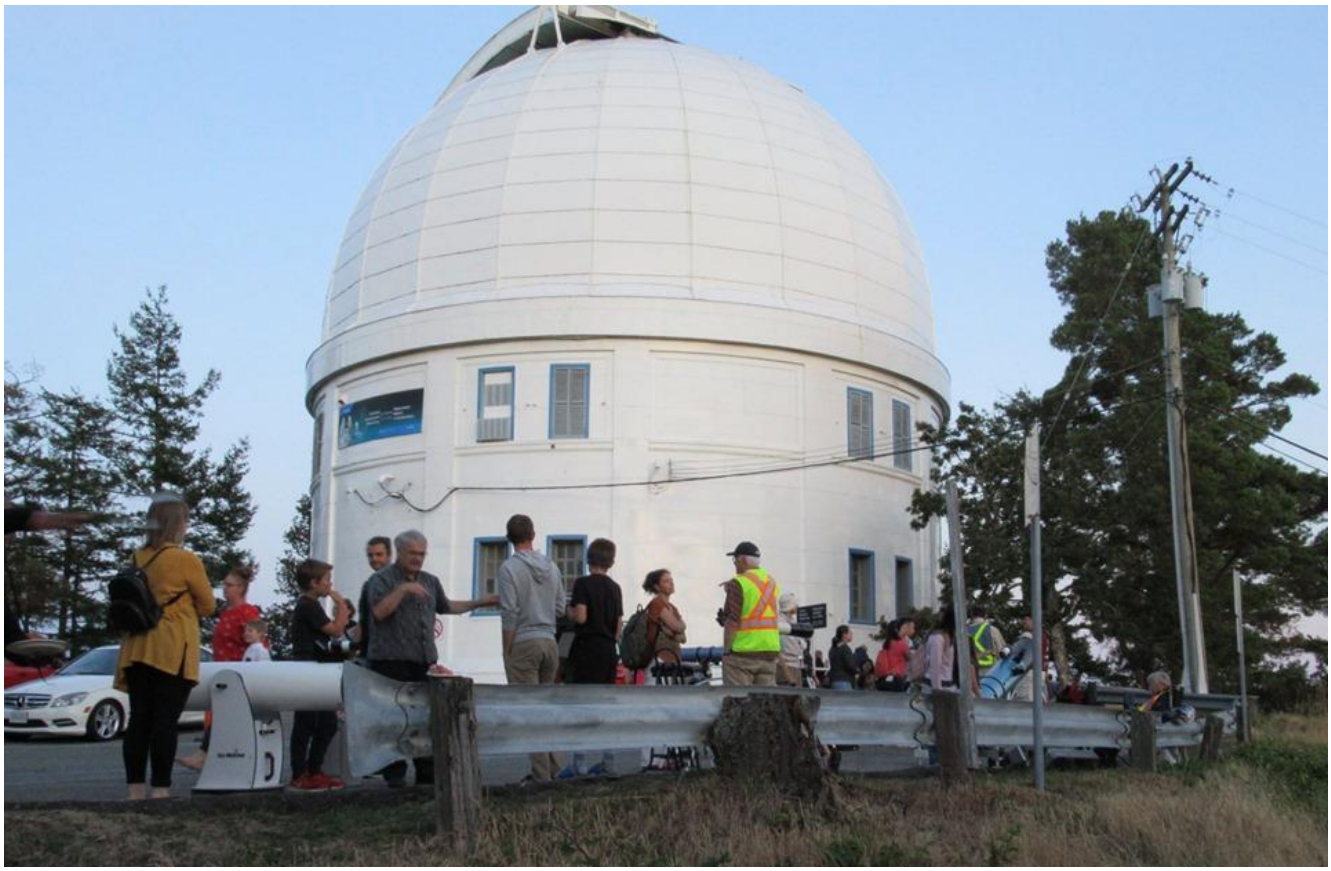
Saturday StarBQ on the field of St. Stephens, during the RASC Star Party, picture by Joe Carr

Happy Anniversary!

A 50th anniversary is something my parents celebrated some time ago and the traditional gift is always gold when reaching this milestone. RASCals were out in droves to celebrate the 50th Anniversary of the Apollo 11 mission this summer, with many of our members having clear memories of that historic event, as they themselves have reached their golden years. On the evening of Friday, July 12th, we had a public outreach event at the Cattle Point Urban Star Park to provide views of the Moon through our telescopes, since it wouldn't be rising until very late on the actual anniversary of the landing. Unfortunately, the sky was especially cloudy, particularly where the Moon was, allowing only a brief view of our closest celestial neighbour. RASC Victoria also staged a display at the Bruce Hutchison Library, throughout July, to raise awareness of the Apollo 11 anniversary.

The FDAO ran a series of extra lectures in the lead up to the Saturday Star Party on July 20th. The event was hosted by the Friends of the Dominion Astrophysics Observatory, with a good many Victoria Centre RASCals in attendance; many of them members of both societies. It was unfortunate that the Moon didn't rise until nearly midnight, owing to the Universe caring little for our scheduling concerns, but despite that it was a nice evening up on Little Saanich Mountain.

Bruce Lane



RASC volunteers with telescopes for Apollo 11 anniversary celebrations, at the FDAO Summer Saturday event, photo by Diane Bell

Astro Café is Back! Monday Nights: 7:30-9:00pm

Astro Café is a weekly astronomy gathering for both RASC members and the public alike. It runs on Monday nights, finishing up at the end of May and returning in September. Astro Café is primarily a social gathering, with presentations of recent observing sessions, astronomy gear show and tell, discussions about astronomy, and of course coffee and cookies (please remember to bring a reusable mug…perhaps even a Astro Café mug). It's located at the Fairfield-Gonzales Community Association, in one of the portable classrooms tucked in behind the main administration building, at 1330 Fairfield Road. Astro Café is a nice introduction to the amateur astronomy community of Victoria. The lights will be on and a sandwich board out front to let you know where we are.

Astro Café kicked off a new season with a bit of show and tell, with some people bringing some pictures from their summer activities. Alas, for those who didn't travel elsewhere their experiences were dominated by clouds. To add to our ever evolving Centre equipment supplies, Reg purchased a very prominent, plastic hand for the end of the pointer, for Astro Café presentations. The next week saw a return to Chris Purse's *Handbook 101* series, focusing on the many subjects covered in our RASC astronomy handbook issued yearly to RASC members. The highlight of the third week was Ron Brecher giving his talk: *Creation of Astronomy: the 17000 years from the Lascaux caves in France to modern instruments*. For the last Monday of the month, David Lee brought his presentation on Mayan astronomy and Randy Enkin gave a short talk on the 40th anniversary of the Canada-France-Hawaii telescope.

Bruce Lane

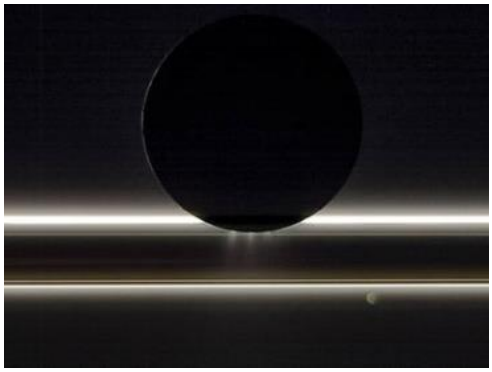
Monthly Meeting Speaker: Linda and Tom Spilker

Cassini's Intriguing New Discoveries and the Design of Space Missions: the Cassini Project Scientist and a Space Mission Architect Share Their Insights

7:30 PM, Wednesday, October 9th; 2019 in Flury Hall (Room B150), Bob Wright Centre, University of Victoria

Abstract: Dr. Linda Spilker, the Cassini Project Scientist, will present updates of the highlights of Cassini's 13-year mission of discovery at Saturn. Since the end of Cassini's mission scientists have been teasing out new information about Saturn, the rings and moons from the huge stock of data collected during the mission. Some of the most surprising results were discovered during the final orbits of the mission, diving through the gap between the rings and Saturn for the very first time.

Bio: Dr. Linda Spilker is a NASA research scientist at the Jet Propulsion Laboratory in Pasadena, CA. She is currently the Cassini Project Scientist, a Co-Investigator on the Cassini Composite Infrared Spectrometer team, and has worked on Cassini since 1988. Since joining JPL over 40 years ago she has worked on the Voyager Project, the Cassini Project, and conducted independent research on the origin and evolution of planetary ring systems. She enjoys yoga and hiking in National Parks, especially her favorite park, Yosemite. She is married with three daughters and eight grandchildren. She received her B.A. from Cal State Fullerton, her M.S. from Cal State Los Angeles, and her Ph.D. from UCLA.



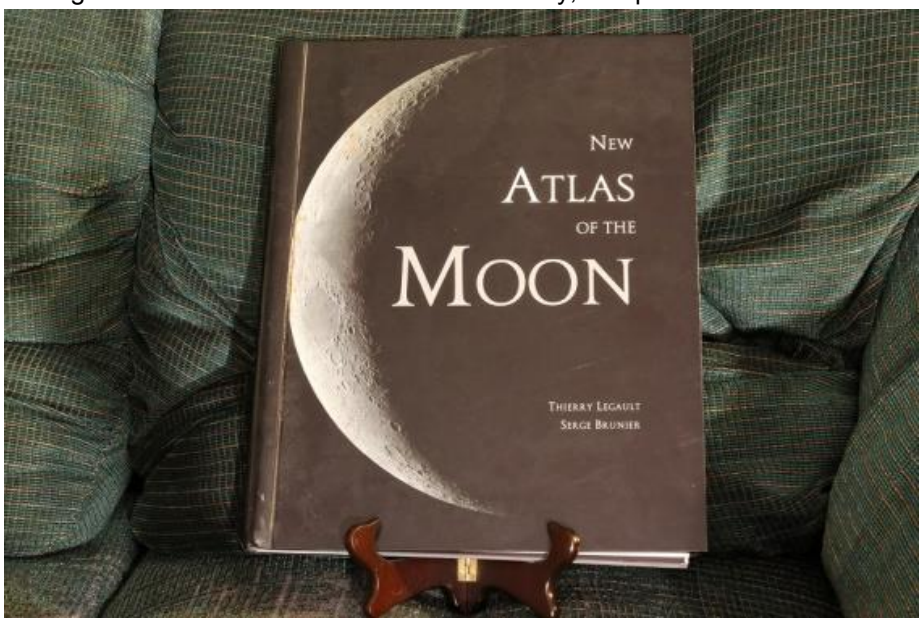
Designing Space Missions

Abstract: Dr Tom Spilker, "International Space Mission Architect" will share some of his experiences with multiple NASA centers, such as JPL, Goddard Research Center, Glenn Research Center, and Langley Research Center, multiple universities, and private corporations and companies, on a variety of space flight mission concepts and instrument concepts. Tom recently architected a large, rotating space station for the Gateway Foundation and its operating arm, Orbital Assembly Corp. Among other important functions, that space station should make it much easier to implement planetary science missions, trips to the moon, and large telescopes in space.

Bio: Dr. Tom Spilker spent 20 years at JPL as a "Mission Architect" after a PhD at Stanford doing research associated with spacecraft-based planetary radio occultation experiments, with a couple of courses in orbital dynamics. He has worked on Voyager, Cassini, Genesis, and Rosetta missions. He has, and continues to work with both science and engineering aspects of mission planning. He retired from JPL in 2012 and is now an independent consultant working with space agencies all over the world.

From the Library

After our monthly meeting, feel free to join your fellow RASCals socializing up in the astronomy faculty lounge on the 4th floor of the Elliott Building, where we have coffee, juice, and cookies. It's also where the RASC Victoria Library is housed, with over 500 titles, curated by Diane Bell, our RASC Victoria Librarian. Our library covers many aspects of astronomy: observing, astrophotography, telescope construction, space exploration, astrophysics, and much more. Every month, *SkyNews* will be featuring a new selection from our Centre's library, complete with a brief book review.



This month we're taking a closer look at the **New Atlas of the Moon**, by Thierry Legault and Serge Brunier. This is one of my favourite and most used astronomy books. It has detailed maps of every day of the Moon cycle. I love the way the Moon photo for each day has a transparent overlay to name all the features on the photo. Beyond the detailed, day by day maps for each phase of the Moon, there is an additional section with even more detailed descriptions of the significant geographical features on the observable side of the Moon. This lunar atlas is an outstanding resource for amateur astronomers, especially those interested in our nearest neighbour, and one you can find in our very own RASC Victoria Library.

Bruce Lane

Hill and Dale (Observing on the Island)

We had some less than seasonal weather this summer, but at least the cooler temperatures spared us from our usual smoke bath from the wildfires. By the end of July, we had our Centre's 16" Ritchey-Chretien finally up and operating again, thanks to the efforts of Dan Posey, Matt Watson, and Les Disher. Also, thanks to Joe Carr for donating a new computer for our beleaguered beast of a telescope. Both the shiny, new Ritchey-Chretien telescope and the computer controlling it went out of commission around the same time last year, making fixing either problem much more difficult. Deep space astrophotography is still a problem, owing to issues that seem to be related to the locking screws and the way the primary mirror is seated in the mirror cells, so the Tech Committee is still working on restoring the telescope for full use. For the nine months it was down it felt a little like we were visited by the curse that seemed to follow the career of George Ritchey, co-designer of this telescope. While it was out of service, we still had the 20" Dobsonian reflector that was recently donated to our society and a lot of members were bringing their own telescopes up to the Hill. Despite the terrible observing weather and the computerized telescope being inoperable at the VCO, we still had a few good nights over the course of the summer.

A reminder that although the VCO belongs to and is for the use of the members of the RASC Victoria Centre, with both weekly scheduled and unscheduled sessions run by our MiCs (Members in Charge), it is located on National Research Council property. This means that all visitors to our observatory must be on our observer list and registered with the NRC. To get on the list, just contact Chris Purse (Membership Coordinator) membership@rasc.victoria.ca and we'll see you up there on the Hill some night soon.

Bruce Lane

RASC Victoria Centre information tent and solar telescopes at the Saanich Fair, photo by Chris Gainor

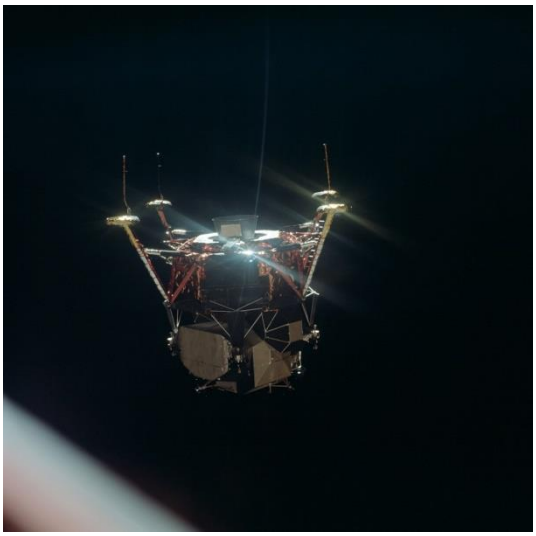
Sailing over the Sea of Tranquility

What does Apollo 11 mean to you? For me it represents the greatest single achievement in manned space travel. A test pilot with ice water in his veins stuck a manual landing on the Moon with multiple alarms screaming in his ears, thanks to the data overload experienced by the lander's computer. You couldn't have had a better person to be in that situation than Neil Armstrong. There were a lot of early indications that Armstrong was going to be more than the average pilot. After all, Armstrong got his student pilot's license before his driver's license and was flying solo within two weeks. He joined the Navy's flight program and it was noted how calmly that he dealt with the stress of the Multi-Phase Ditching Trainer that dumped seated pilots into a swimming pool. As a F9F Panther pilot in the Korean War, serving aboard the USS Essex, he once got in trouble with his commanding officer for being late for a briefing. When Lieutenant-Commander Beauchamp demanded to know where the young ensign had been, Armstrong told him he'd been teaching algebra to a class of enlisted sailors in his downtime and there had been a class meeting. While flying a low altitude, bombing mission, he lost a substantial portion of his wing when it was sheared off by a cable put up by the enemy. One moment he was flying, at an altitude of 500 feet, the next he was fighting to recover control, leveling out just 20 feet above the ground. Because of the condition of his jet, he had to eventually eject, but he made certain that he flew back to friendly air space first, avoiding the fate of becoming a prisoner of war.

After his service in the Korean War, Armstrong chose not to become just a test pilot or an experimental test pilot, but an aeronautical research pilot for NACA (the predecessor of NASA). He wouldn't just test new jet designs; he would be part of a more demanding process that made new advances in aerospace engineering, helping to create the jets that would be flown by test pilots. Among the many jets that Armstrong flew was the North American X-15, a spaceplane that was drop launched from the wing of a B-52 bomber. The X-15 was an experimental jet, more missile than plane, capable of reaching the edge of space itself. The X-15 pilots were continually breaking altitude and speed records, with eight pilots in the program flying high enough (80km) to receive their astronaut wings. At the same time as the X-15 pilots were doing their zooms into the stratosphere and mesosphere, the Mercury Seven were conducting their orbital launches. Armstrong's participation in the X-15 program and having endured the Johnsville centrifuge even before the Mercury 7 did, put him in a perfect position to be recruited for the Gemini Program.

The astronauts of the Mercury, Gemini, and Apollo programs were among the top of their field as pilots, but they also had a lot of the academic *right stuff* in their resumes. Buzz Aldrin had a PHD in astronautics and was an Air Force jet pilot; Michael Collins had a degree in science and was an experimental test pilot in the Air Force; while Neil Armstrong had a degree in aerospace engineering and was a NACA research pilot. Buzz Aldrin's doctorate paper, *Line-of-Sight Guidance Techniques for Manned Orbital Rendezvous*, probably had a lot to do with his selection to the Gemini program. In addition to their astronaut and flight training, members of the Apollo program were assigned ground stations to work alongside and Armstrong's tasking was to work with the simulators. The engineers were just happy to have one of their own to work alongside them. During this intense training program, like many of his fellow astronauts, Armstrong was frequently publishing academic papers due to all the new inventions and innovations that were being made during this critical moment of the space race. *Publish or perish* took on a new meaning when astronauts were working along with ground crews to not just do what had never been done before, but to figure out every minute detail that went into doing it. When the 1201 and 1202 alarms went off aboard the Eagle lander, due to computer data overload, it was something they had already encountered in the simulators. Given the limited processing power of a computer that could fit on board the lander, it wasn't completely unexpected. Still, there were only a handful of people who actually knew what those alarms meant. Everyone at their stations in Mission Control were already trying to cope with the stress of the lander running short of fuel and overshooting its intending landing spot for the first ever touchdown on an alien world.

Neil Armstrong faced a lot worse adversity during his Gemini 8 mission, when a malfunctioning thruster caused the module to spin wildly out of control. Armstrong's calm voice over the radio sounded like he was ordering lunch at a diner; even when close to blacking out from the space capsule spinning at one revolution per second, even while everything not bolted down was flying around the inside the cabin. Armstrong managed to fight his way to the nose of the spinning capsule, turn off the breaker powering the malfunctioning thrusters, and use the re-entry thrusters to regain control of the module. David Scott, the other astronaut aboard Gemini 8, considered himself an exceptionally lucky man to have had Armstrong in command, handling the emergency, and was amazed at how knowledgeable he was of the module's systems during the crisis. Scott would go on to command the Apollo 15 mission and become the seventh man to walk on the surface of the Moon. As much as I'm in awe of the technology in the many space telescopes, probes, and rovers that we've sent out into space, I will always long for the day when humanity reaches out again beyond low Earth orbit. Hopefully, next time we send a geologist on the first mission instead of the last.



Bruce Lane

More from the Saanich Fair

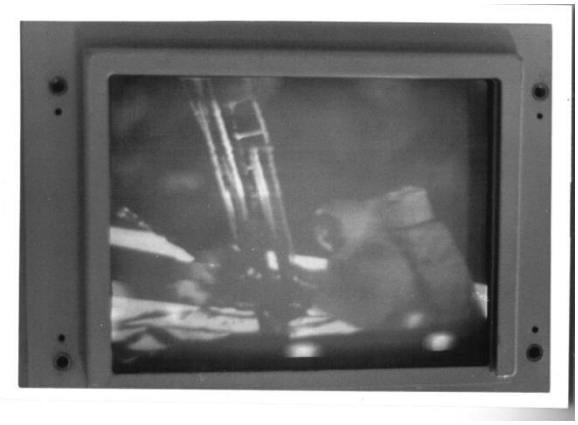
Bonnie Authier: winner of this year's Saanich Fair telescope draw prize poses with the President of RASC National. Over 500 people entered for a chance to win the donated telescope.

In Memoriam

E.A. "Gene" Steeves, a long time and active RASC Victoria member, passed away June 30th, 2019. Gene was once our club's Director of Telescopes in 1987. He went on to become the Centre President, 1988-89, when RASC Victoria hosted both the RASC General Assembly and the Astronomical Society of the Pacific - at the same time (1988). During Gene's tenure as the President of RASC Victoria, the Centre also began focusing more on member driven activities and founded the Observers Group.

Dennis Crabtree of the DAO is looking for some Citizen Science Historians to help out with a project to scan historical photos. For more information, please email the RASC Victoria President at: president@victoria.rasc.ca

Astronomical Term of the Month: Mare



Water was first discovered on the Moon, in the form of vapour, by the Suprathermal Ion Detector Experiment on the Apollo 14 mission. After a succession of probes and landers sent to the Moon's surface, we're almost certain there is water there, although figuring out how much will be a challenge for future missions. It's certainly a long way from the quantities that ancient observers believed were on the surface of the Moon.

In Ancient Greece, Plutarch (46-120AD) was a well-known writer, both in his own time and thanks to many of his works surviving, our time. One of his writings was called *The Face of the Moon*. In it, he details the opinions of many thinkers of his time and their thoughts on what they were observing on the Moon's surface. The predominant belief was that the darker, less reflective, deserts of the Moon were actually seas. Plutarch's book about the Moon was in opposition to the views of Aristotle, who adamantly believed that all the celestial bodies, the Moon included, were perfect spheres without blemish. Aristotle's followers, along with later worshippers of Christianity and Islam, explained that the observed irregularities seen on the surface of the Moon were occurring because it was a perfect mirror and we were merely observing the reflection of the imperfect Earth.

Englishman, Thomas Harriot experienced the first known instance of anyone pointing a telescope at the Moon, months before Galileo did the same. Harriot created a series of lunar sketches between 1609 and 1613, which were preserved but never published. As more people began look at the Moon through telescopes and draw sketches of what they saw, the idea that the Moon was a perfect mirror sphere wasn't holding up to observations. Even with the invention and use of telescopes to observe the Moon, the idea that there were seas on the surface of our nearest celestial neighbour persisted. Mare, the Latin word for sea, was first used to describe the oceans of the Moon by writers in the 1600s, writers who had access to telescopes. Giovanni Riccioli, a Jesuit astronomer, published a book in 1651 where he gave the Moon's visible "seas" the names they are still known by today.

We still use the name "sea" or mare to describe the darker, smooth regions on the surface of the Moon, despite the fact we have long known that they are basins of cooled lava, from eruptions that occurred between 1.2 and 4.2 billion years ago. Given that we continue to refer these deserts as seas and how long it took the international astronomy community to adopt the term "asteroid", is it any wonder that Pluto continues to have an identity crisis?

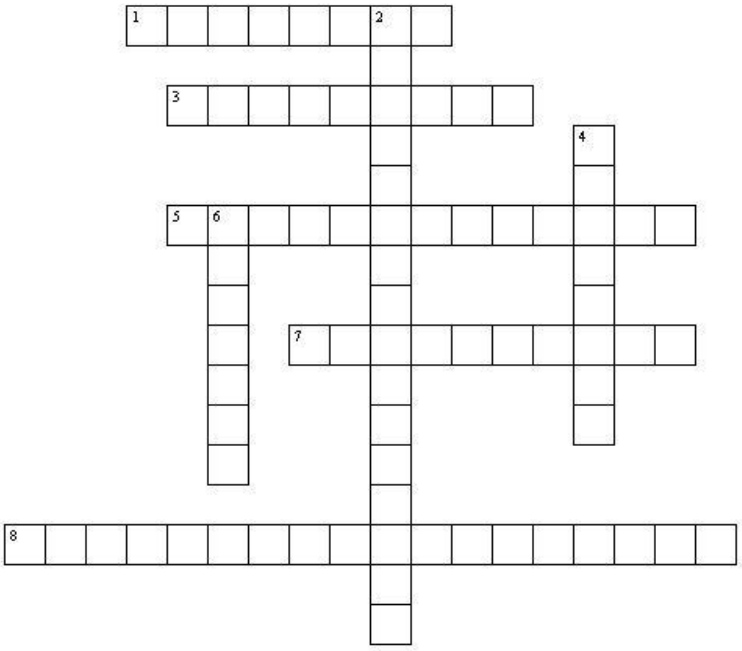
Bruce Lane

June Astro Crossword Answers

Across 7: **Stellafane Convention** is the name of the yearly gathering of telescope builders in Springfield and **Across 8**: **Palomar** is the location of the Hale Telescope.

Down 1: Baffin Island is the location of the lake named after Russel Porter; **Down 2**: The **Black Hole Image** inspired Diane's cookies at Astro Café; **Down 3**: **Star Clusters** were Dr. Jim Hesser's primary astronomy research subject; **Down 4:** The kind of vehicle NASA scheduled to send to Mars next year that was recently tested is a **helicopter**; **Down 5**: **Beta Taurid** is where the meteor that caused the Tungusta Event most likely originate from; and Down 6: **Calgary** is where the 2018 RASC General Assembly was held.

October Astro Crossword



ACROSS

1 Who was the 4th Man to walk on the Moon?
3 Type of telescope that was the Saanich Fair prize
5 Another way to say Executive Chef
7 Layer of Earth's atmosphere above the stratosphere
8 Where did Apollo 12 land?

DOWN

2 Subject of Saturday lecture at the star party
4 How many Earth years did Cassini orbit Saturn?
6 First person to observe the Moon through a telescope

In Closing

September was once the month that marked the resumption of regular club activities for RASC Victoria, with the return of Astro Café, the school program, monthly meetings, and council meetings. This September was, however, the month when everything happened. Whether it was the Cowichan Star Party that began the month, the Saanich Fair, the end of the FDAO Summer Saturdays, hosting a PixInsight course on Observatory Hill, the Fairfield Fall Fair, or our very own RASC Star Party, it was the busiest month of the year for our local amateur astronomy community. With September behind us it's time to look forward to the longer nights of autumn and wearing a few more layers up at the VCO.

Some of you might be wondering what happened to the September issue of *SkyNews*. Well it both does and doesn't exist; so you have both read it and not read it. For decades the September issue, like those of every other month, were published some time between the end of the month and the next monthly meeting. Given that the precedent of dating the president's message was recently changed, it follows that *SkyNews* should do the same. It means not having to rush to try to finish working on issues before the end of the month, so the *SkyNews* is published in its name month. This is especially problematic when you have major events, like star parties, happening at the very end of the month. This in no way means that next year you'll see an issue published in early September. The last time someone did that was 2011 and *SkyNews* is among the many Centre activities that take the summer off.

Bruce Lane: SkyNews Editor

Photography Credits

Cover: Saturday night under the skies at St Stephen's, RASC Star Party; Sep 28, 2019, by Joe Carr

Page 2: Rainy Parking Lot at St Stephen's, RASC Star Party; Sep 27, 2019, by Diane Bell

Page 2: Flipping Burgers at the StarBQ, from foreground Chris, Cameron, and Lisa; Sep 28, 2019, by Bruce Lane

Page 3: A Drone's Eye View of the RASC Star Party; Sep 28, 2019, by Joe Carr

Page 3: Crop of Bruce Lane (SkyNews Editor) at 2013 RASCal Star Party in Metchosin, by Chris Gainor

Page 4: Crop of Reg Dunkley (RASC Victoria President) at 2018 AGM, by Joe Carr

Page 4: Reg and his Astronomy Tent; Sep 28, 2019, by Joe Carr

Page 5: StarBQ at St Stephen's, RASC Star Party; Sep 28, 2019, by Joe Carr

Page 6: Apollo 11 display at Bruce Hutchison Library by RASC Victoria, July-August, 2019, photographer unknown

Page 6: RASC volunteers with telescopes for Apollo 11 anniversary celebrations, at the FDAO Summer Saturday event; July 20, 2019, by Diane Bell

Page 7: Photograph and Design of Astro Cafe Mug, by Joe Carr

Page 7: Enceladus from the Cassini probe, NASA image created from Cassini data Jan 20, 2015, by Brian Dunbar

Page 8: Posed Book, "*New Atlas of the Moon*", taken in Editor's residence on Oct 6, 2019, by Bruce Lane

Page 9: RASC Victoria Centre information tent and solar telescopes at the Saanich Fair; Sep 2, 2019, by Chris Gainor

Page 10: Neil Armstrong training portrait, NASA image; Apr 18, 1969, scanned by JL Pickering

Page 11: Eagle LM from Command Module, after undocking, NASA image from Apollo 11 mission, July 1969, by Mike Collins using a Hasselblad camera

Page 11: Bonnie Authier, winner of this year's Saanich Fair telescope draw, poses with the President of RASC; Sep 2, 2019, by Diane Bell

Page 12: "Honeysuckle Polaroid", Polaroid of monitor at Honeysuckle Creek tracking station, Armstrong descending ladder; July 20, 1969, NASA image by John Saxon (operations manager at site)

Page 13: Big Cuckoo (*RIP little dinosaur*), Cuckoo Maran chicken; May 23, 2019, by Bruce Lane

Page 15: Apollo 11 training, Neil (left) ad Buzz practice collecting documented rock samples; Apr 15 or 18, 1969, image from NASA Johnson Space Center

Call for Article and Photo Submissions for November Issue

SkyNews is looking for submissions of astronomy photos and articles for the November issue of our Victoria Centre's magazine. Send your submissions to **editor@victoria.rasc.ca**

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