

# SKYNEWS



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## NEXT MEETING

**Next Monthly Meeting**  
Wed April 12th 2017  
Rm 167  
Elliot Building  
UVic Campus

[www.victoria.rasc.ca](http://www.victoria.rasc.ca)

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## **On the Cover**

### **M63 - The Sunflower Galaxy**

**By Dan Posey**

M63 is a beautiful spiral galaxy located 37 million light years away in the constellation Canes Venatici. Dan Posey obtained this stunning photo from a total of 5h45m of five minute exposures from two separate datasets. It consists of 3h50m of 5 minute frames captured with a Canon 6D at ISO 1600, and 1h55m of 5 minute frames captured with a QSI 583c. Both datasets were collected through the VCO Meade 14" SCT at f10, and were calibrated with dark, flat and bias frames.

## **Presidents Report**

**by Chris Purse**

Spring is nearly upon us and I am hoping for a distinct change in weather. We have had very few observing sessions at the VCO through the winter and I think the last RASCals of Cattle Point evening that actually went ahead was in 2015. Clouds, clouds, go away!

Thanks to Reg for coordinating the purchase and installation of the new monitor for the Astro Café building. Its first light saw a record attendance with 27 people there. A very special thank you goes to Terry Ryals for building the cabinet for the television; it looks just great.

Due to April exams being scheduled in our regular meeting room, our monthly meeting on Wednesday, April 12 will be in the Elliott Building Lecture Wing Room 167.

My heartfelt thanks to His Worship Mayor Ranns and councillors of the District of Metchosin who approved our request to hold the RASCals Star Party on the weekend of July 28 – 30 with the rental fee waived. That will be proceeding at the Metchosin Municipal Grounds on Happy Valley Road; more information will be provided as it becomes available. Our Star Party will coincide with the National Star Party day of Saturday, July 29. The plan is for as many centres as possible to have public events on that day in honour of the 150th anniversary of the Confederation of Canada. We hope there will be clear skies so we can show off the sky!

We are also in the process of finalizing our agreement with the Friends of the DAO to hold another series of Summer Star Parties on Saturday evenings. We are planning to have those every Saturday from Astronomy Day on April 29 to September 16. If you have NOT been involved in past years and would like to volunteer please let Ken know at [outreach@victoria.rasc.ca](mailto:outreach@victoria.rasc.ca) and we will add you to the email list.

Please be reminded to let me know at [president@victoria.rasc.ca](mailto:president@victoria.rasc.ca) if you would like to participate in a bulk purchase of the Explore



**An Infestation of Domes. Kitt Peak National Observatory, Arizona.** See page 7



## March 8th Meeting Presentation

### "Bugs in Space!? A Microbiologist's View of Astrobiology and the Habitable Zone" by Dr. Julia Foght

As astronomers discover myriad planets in distant solar systems and find evidence of water on planets and moons in our own solar system, astrobiologists seek to answer the question "Is there life elsewhere in the Universe?" But nested within these few words are many other questions: If life exists or previously existed beyond Earth, would we even recognize it? How can we detect life at astronomical distances without collecting physical samples? What 'biosignatures' could we use, remotely or in place, to locate, confirm and/or examine such life, especially if it was microscopic? Where are the best places to look for life nearby in our solar system? Can sites on Earth serve as analogues to refine our questions and future exploration? Can the search for extraterrestrial life illuminate theories about the origins of life on Earth? Dr. Foght will present some of the factors that potentially influence the distribution of life in the universe and the colonization of exoplanets, based on our current understanding of earthly analogues and 'extreme' microbes, but be prepared to leave with more questions than answers!

**Bio: Dr. Foght** Professor Emerita in the Biological Sciences Department, University of Alberta, is an environmental microbiologist and a past member of the Canadian Space Agency's Astrobiology Discipline Working Group. Her interest in the field of Astrobiology arose from her fieldwork in Antarctica and research into microbes that live beneath glaciers from Nunavut and Alaska to New Zealand's Southern Alps and the Transantarctic Mountains.

**See Page 4 for Upcoming Speakers**



## ASTRONOMY CAFE



Our weekly **Astronomy Cafe** is an excellent, informal, way to meet us. New comers are especially encouraged. <http://victoria.rasc.ca/events/astro-cafe/>

Fairfield Community Centre - 1330 Fairfield Rd. Victoria. 7:30pm.  
Contact: Reg Dunkley for further details  
[vp@victoria.rasc.ca](mailto:vp@victoria.rasc.ca)

Every Monday at 7:30 PM



### Email Lists

#### Observer / CU Volunteers / Members

Contact Chris Purse to subscribe  
[membership@victoria.rasc.ca](mailto:membership@victoria.rasc.ca)



### New Observers Group

Hosted by Sid Sidhu - 1642 Davies Road, Highlands. Call 250.391-0540 for information and directions.



**Cattle Point observing** in Victoria's own Urban Dark Sky Park:

<http://victoria.rasc.ca/events/rascals-cattle-point/>

Next Sessions : *Weather Permitting*  
**Friday October 6th at 7:00 PM**



### Victoria Centre Observatory: Every Saturday Evening.

*Open to those on the **Active Observers list only***

Weather permitting. Dress warmly, and see you out there. Take care driving as it is the slippery season.



### UVic 32 Inch Telescope

RASC Victoria Centre Session  
2nd Friday of Every Month.

Meet by the Elevator in the Bob Wright Centre at 7PM

### Membership Report - March 2017

Total membership is currently **238**. There are 18 members in the grace period which means their membership has expired in the past 2 months. Please contact Chris Purse ([membership@victoria.rasc.ca](mailto:membership@victoria.rasc.ca)) if you would like to check the status of your membership.

## All Splendours, No Fuzzies.

On the following two pages please find the list of **Spring Splendours** that were selected by Okanagan Centre RASC member **Alan Whitman**. Why another list? Well sometimes **Less is More** and that is the appeal of Alan's **All Splendours No Fuzzies** observing list. He has eliminated some of the more modest Messier objects and has included a number of splendours that deserve more attention. Beware that. Alan has also included a number of Southern Hemisphere targets. So if an object has a declination lower than minus 30 degrees you may want to head south. Table abbreviations are to the right. An empty column has been included to the far right of the table so that you can mark your progress. This list is not as overwhelming as some so give it a try. The full list can be viewed at the following link: <http://www.ocrasc.ca/All%20Splendor.html> The **Fall Splendours** can be found in the October 2016 issue of SkyNews and the **Winter Splendours** can be found in the January 2017 issue of SkyNews.

### Upcoming Speakers at UVic

#### Wednesday April 12th 2017

Kyle Oman; Dark matter: Small scales - Big problems

#### Wednesday May 10th 2017

Benjamin Gerard; Imaging Other Worlds

#### Wednesday June 14th 2017

Dr. Lisa Loche. Radio and Microwave Astronomy – History, Canadian Involvement, and Interesting Tidbits

#### Wednesday September 13th 2017

Ted Stroman. Formation and Geology of the Moon.

#### Wednesday October 11th 2017

Wendell Shuster. Historical Supernovae

<b>A</b>	component A of a double or multiple star
<b>adj</b>	adjacent
<b>B</b>	component B of a double or multiple star
<b>B</b>	(with number) Barnard's catalogue of dark nebula
<b>C</b>	component C of a multiple star
<b>CC</b>	concentration class for globular clusters, from I to XII
<b>Cl</b>	cluster(s)
<b>cn*</b>	central star of planetary nebula
<b>d</b>	degree
<b>Dbl</b>	double star
<b>dl</b>	dark lane in galaxy or emission nebula
<b>DN</b>	dark nebula
<b>EN</b>	emission nebula
<b>G</b>	galaxy (with type)
<b>GC</b>	globular cluster
<b>IC</b>	Index catalogue
<b>-in</b>	inch (as in "8-in", meaning a telescope of 8-inch aperture)
<b>inv</b>	involved
<b>LMC</b>	Large Magellanic Cloud
<b>M</b>	Messier catalogue
<b>m</b>	visual magnitude
<b>mag</b>	visual magnitude
<b>Mlt</b>	multiple star
<b>[name]</b>	the originator of a descriptive name
<b>NE</b>	visible with the unaided eye
<b>Neb</b>	nebula
<b>NGC</b>	New General Catalogue
<b>OC</b>	open cluster
<b>OIII</b>	An Oxygen III nebular filter is recommended
<b>p</b>	photographic magnitude
<b>PN</b>	planetary nebula

# Alan Whitman's Spring Splendours, No Fuzzies-Page One

ID	Con	Type	RA(2000)	Dec	Mag	Size(')	Remarks	
2880	Car	GC	9 12.0	-64 52	6.3	14	Brightest CC I	
2903	Leo	G-Sb	9 32.2	21 30	8.9	11x5		
M81	UMa	G-Sb	9 55.6	69 04	6.9	16x10	6x30 finder shows M81, 82	
M82	UMa	G-I	9 55.8	69 41	8.4	7x2	13-in: mottled, two diagonal dl	
3132	Vel	PN	10 07.0	-40 26	8.2	0.8	Eight-Burst Neb	
3201	Vel	GC	10 17.6	-46 25	6.8	18	CC X	
Gamma	Leo	DbI	10 20.0	19 50	2.6,3.8	4.6"	Gold, yellow-green. Sep. changing quickly. Data 2016	
3242	Hya	PN	10 24.8	-18 38	8.6	0.3	Ghost of Jupiter; pale blue	
3293	Car	OC	10 35.8	-58 14	4.7	40	EN + RN + DN inv; incredible tight ball of st	
IC 2602	Car	OC	10 43.2	-64 24	1.9	50	NE; Theta Car Cl or "Southern Pleiades"	
3372	Car	EN	10 43.8	-59 52	3	120	NE; Eta Car Neb; chevron dl; the finest nebula in the sky	
3532	Car	OC	11 06.4	-58 40	3.0	55	NE; 3d ENE Eta Car; Ri, oblate	
M97	UMa	PN	11 14.8	55 01	11.2?	3.2	Owl Neb [Lord Rosse]; 'eyes' with 6-in, OIII; G-Sc M108 adj	
Xi	UMa	DbI	11 18.2	31 32	4.3,4.8	1.8"	Yellow pair	
M66	Leo	G-Sb	11 20.2	12 59	9.0	8x3	Trio with M65, NGC 3628; 16-in: two arms in M66 and 3628's dl	
3766	Cen	OC	11 36.1	-61 37	5.3	12		
M106	CVn	G-Sb	12 19.0	47 18	8.3	20x6		
Coma Ber	Com	OC	12 25.1	26 06	2.9p	300	NE; very large	
M86,etc	Vir	G-E3	12 26.2	12 57	9.2	7	Heart of Virgo Cl: ten Gs in 1d field	
Alpha	Cru	DbI	12 26.6	-63 06	0.8,1.2	4.0"	Blue-white pair	
24	Com	DbI	12 35.1	18 23	5.0,6.6	20"	Deep yellow, blue-white	
4565	Com	G-Sb	12 36.3	25 59	9.6	16x3	Remarkable edge-on; thin dl	
M104	Vir	G-Sb	12 40.0	-11 37	8.3	7x2	Edge-on Sombrero Galaxy with dl	
Gamma	Vir	DbI	12 41.7	-01 27	3.4,3.5	2.6"	Both pale yellow; closest in 2007. Sep. changing quickly. Data 2016	
4631	CVn	G-Sc	12 42.1	32 32	9.3	15x3	Humpback Whale Galaxy [Hewitt-White]; G 4656/7 adj	
M94	CVn	G-Sb	12 50.9	41 07	8.2	11	Defies moonlight (show on Astronomy Day)	
Coalsack	Cru	DN	12 51	-63	--	360	NE; OC 4755 (Jewel Box) adj	

ID	Con	Type	RA(2000)	Dec	Mag	Size(')	Remarks	
M64	Com	G-Sb	12 56.7	21 41	8.5	8x4	Black-eye G [W. Herschel]; dl	
M63	CVn	G-Sb	13 15.8	42 02	8.6	8x3	Sunflower G; 7x50s reveal it	
Zeta	UMa	DbI	13 23.9	54 58	2.3,3.9	14"	Mizar: bluish-white, greenish-white; Alcor adj	
5128	Cen	G-S0	13 25.5	-43 01	7.0	10x3	Cen A; dl from merging spiral	
5139	Cen	GC	13 26.8	-47 29	3.7	36	NE; Omega Cen: brightest GC; CC VIII (apparently the core of a captured dwarf elliptical galaxy)	
M51	CVn	G-Sc	13 29.9	47 12	8.4	11	Whirlpool Galaxy [Lord Rosse]; 8-in: spiral arms; 5195 inv	
5189	Mus	PN	13 33.5	-65 59	10p	2.6	Like a barred spiral	
M83	Hya	G-SBc	13 37.0	-29 52	7.6	11	8-in: bar and 1 arm; 14.5" 3 arms	
M3	CVn	GC	13 42.2	28 23	6.4	16	CC VI	
M101	UMa	G-Sc	14 03.2	54 21	7.7	27	Numerous brighter knots	
Alpha	Cen	DbI	14 39.7	-60 49	0.0,1.3	4.2"	Yellow pair; closest NE star. Sep. changing quickly. Data 2016	
Epsilon	Boo	DbI	14 44.9	27 05	2.7,5.1	2.8"	Izar; deep yellow, blue	
5907	Dra	G-Sb	15 15.9	56 19	10.4	12x2	Edge-on Splinter Galaxy	
M5	Ser	GC	15 18.6	02 05	5.8	17	CC V	
Zeta	CrB	DbI	15 39.4	36 38	5.1,6.0	6.3"	Blue, greenish	

## Astrophotos Accompany Herschel's Music by Jim Hesser

On 21 Jan. 240 people enjoyed a (standing-room-only) concert at Christ Church Cathedral's Chapel. "On the Construction of the Heav'ns" featured some of astronomer William Herschel's compositions in what the organizer, Michael Jarvis, believes were North American premiers of most pieces. Attendance was no doubt enhanced by the excellent preview that appeared in the Times-Colonist: <http://www.timescolonist.com/classical-music-period-duo-spotlights-music-of-overachieving-astronomer-1.7879505>

Throughout the concert astrophotography and sketches by members of RASC Victoria Centre – many done on Observatory Hill with the Victoria Centre's Observatory near the 1.2-m telescope – were projected on the chapel ceiling. The astrophotography exhibition was curated by John McDonald and the myriad technical challenges of projection were surmounted by David Lee. Unanticipated were

the dramatic effects of such wide-field projection on the Chapel ceiling's three different planes—truly spectacular representations of Centre member's beautiful images and sketches.

Among many, many achievements, Herschel discovered Uranus and the existence of infrared radiation. His younger sister Caroline assisted William in music and astronomy, and made many discoveries of her own, becoming the first woman paid a salary by the British government. Retired NRC HIA astronomer Alan Batten did in-depth historical research on both Herschels and, as William, read excerpts from his extensive writings. Caroline was ably represented by retired opera singer, Carolyn Sinclair. In addition to strong RASC turnout, CBC science journalist Bob McDonald along with many other members of the Friends of the DAO, attended what everyone commented was an extraordinary multi-media evening. The organizers were so pleased with the event that they've made a \$200 donation in thanks to Victoria Centre.



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## An Observer's Travels

by *Diane Bell*

When the opportunity came up to do some excellent night-sky viewing at 32 degrees North, it was hard to pass up! Five of us accepted Garry Sedun's invitation to join him at his home and observatory for a week in mid-February. It is located southeast of Tucson, Arizona, near the beautiful Dragoon Mountains.

Reg Dunkley, Matt Watson and I flew to Phoenix on February 18th, and picked up our rental car for the three-hour drive to the Sedun's home. We arrived at 1 AM the next morning. Joe Carr and John McDonald had already arrived and were staying nearby, at a neighbour's home. Our first two nights were cloudy but for the nights following, we were not disappointed....

Garry's observatory is well-equipped with a 20" Newtonian reflector as well as a 25" Newtonian, which was newly-prepared for visual work. He has a well-designed, heated computer room from where both telescopes were operated. On the first clear night, we spent some wonderful hours navigating through the skies and familiarizing ourselves with old and new constellations. Orion was high - bright and beautiful, and at that latitude, cartwheeled crazily into the west later on that night. And - bright Canopus greeted us as well, low on the southern horizon. Venus was high and prominent in the west, showing off a lovely crescent phase through the viewing telescope.

Between the six of us, we had a diverse list of things and duties we wanted to undertake. Reg, Matt, Joe and John recorded lovely time-lapse movements of the night skies, as well as some astrophotography. Reg and I made good use of the large 25" 'scope with our NGC and Messier visual work, and other galaxies and double stars. The many trips up and down the ladder to see our targets was well worth it! One of the highlights of our viewing was spotting "Hind's Crimson Star" (R Leporis), a well-known carbon star in the constellation of Lepus. The view was amazing. One of the reddest carbon stars in the sky, R Leporis lived up to its name. It was a heavy contrast indeed, with its blue-white and golden-coloured neighbouring stars. We nicknamed it the "Skittle"! We also had an

opportunity to photograph our favourite targets as well, from southern galaxies and NGCs.

A trip to Latitude 32 North was not complete without my own 25 x 100 binoculars! They added weight to my suitcase, but the benefits of observing through my favourite "light-buckets" was well worth the extra packing. At 4,700 feet above sea level, the nights near the Dragoon Mountains were clear but cold! On the third night after my arrival - after bundling up in my winter apparel, I spent a few hours outside, scanning the southern horizon for the sky-treasures that were hidden below our own home latitude of 48 degrees North. I also had four clear mornings that were amazing. The waning crescent moon greeted me in those small hours and it was lovely to see it every morning, as it rose. The seeing and transparency were good and with my star maps in front of me, I was able to sweep through the southern constellations of Centaurus, Scorpius, Lupus and Sagittarius over the next few mornings - before astronomical twilight overtook the skies. I visited many Messier objects, including some NGC deep-sky wonders. I briefly spotted the Hercules globular cluster, M13, before sweeping the sky to have a look at NGC 5139, Omega Centauri. This magnificent globular cluster made M13 pale in comparison....



**Diane's Favourite: Omega Centauri NCG 5139**  
The Largest Globular Cluster in the Milky Way  
With an angular diameter larger than the Moon.  
Taken by Gary Sedun with his 20 inch Newtonian

Scorpius is also a wonderful constellation to observe! It is a visual treat, and the "False Comet" flowing out from Zeta Scorpii at the curve of the Scorpion's tail was beautiful through the large binos. The jewel-like open clusters were lovely. I gave a thought to Charles Messier, whose latitude in Southern France didn't allow him a proper look at this showpiece - and pondered what this comet-hunter had missed for his list.

I had to sacrifice a few hours of sleep in order to spot Omega Centauri near the meridian, but it was worth it. Earlier in the week before 4 AM, Garry headed out to the observatory to do some data work. I joined him and we lowered the southern-facing window of the observatory to look at my target through the 25" telescope. Beautiful, indeed! I also had a look at Centaurus A, a curious radio galaxy that was nearby. I chose Omega Centauri as my photo opportunity, and was able to take home the best souvenir from our time here, thanks to Garry's expertise with the initial photography and data work.

Our day trips were busy ones! We had an outing to Kitt Peak to tour the iconic Mayall Observatory, and to see the amazing views from the top. We drove to Tucson to see the Richard F. Caris Mirror Lab which is producing the eight meter-wide mirrors for the future

Magellan Telescope, slated for Chile. We also enjoyed the PIMA Air and Space Museum near Tucson, the Kartchner Caverns for a cave tour, and took in the Western drama in the historic town of Tombstone.

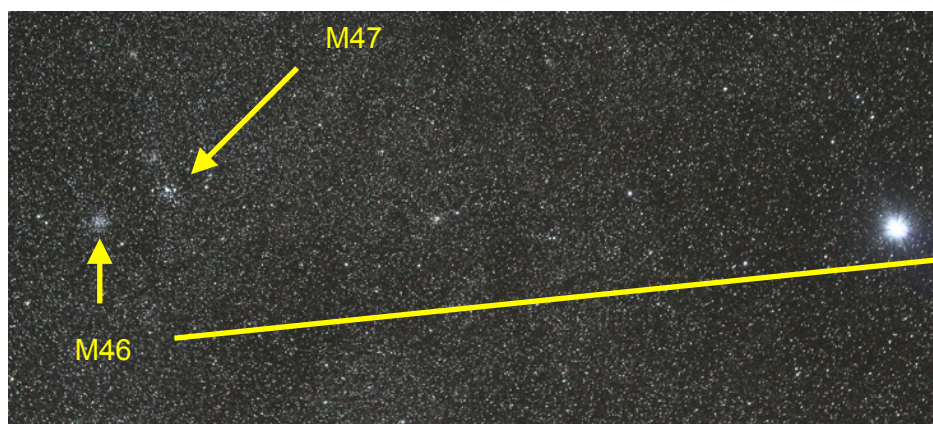
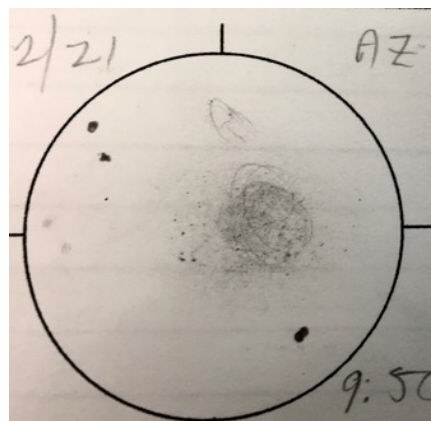
GRATEFUL thanks to our wonderful host, Garry Sedun, for his hospitality - and for sharing his home, observatory, and talents with all of us!

I spotted a meme in a Tucson travel ad last week that sums up what we have experienced:

*"I STARE INTO THE SOUTHWESTERN SKY -  
AND IT STARES BACK, GLOWING  
BRIGHTER THAN A MILLION TWINKLING  
STARS"*

**Diane also  
sketched  
some objects.**

Right: Diane's  
Sketch of M46  
Bottom Right:  
M46 Enlarged  
from wider view  
of a star field  
image east of  
Sirius by Reg



### **EARTH AND FRIENDS: A FUNDRAISER FOR SCIENCE OUTREACH AT THE OBSERVATORY**

Saturday, 22 April 2017 from 7:00 PM to 11:00 PM (PDT) at the Centre of the Universe  
The 2017 Friends of Dominion Astrophysical Observatory Society (FDAO) "Earth and Friends" fundraiser marks our second year of raising funds for astronomy and science education on Southern Vancouver Island. Join Vox Humana and science journalist Bob McDonald for a night of music, mingling and education as we kick off the run up to the centennial year of the Observatory. With a silent auction rounding out the evening to help raise funds for public education at the observatory, this will be a one of a kind event. [Click Here For Tickets](#)



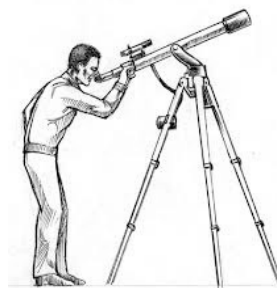
## RASC Victoria Centre Council 2016 / 2017

POSITION	NAME	E-Mail
Past President:	Sherry Buttnor	<a href="mailto:pastpres@victoria.rasc.ca">pastpres@victoria.rasc.ca</a>
President	Chris Purse	<a href="mailto:president@victoria.rasc.ca">president@victoria.rasc.ca</a>
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Astro Cafe	John McDonald	
NRC Liaison	James di Francesco	
Nat RASC Anniversary Wrkg Group	Dr. James Hesser	<a href="mailto:james.Hesser@nrc-cnrc.gc.ca">james.Hesser@nrc-cnrc.gc.ca</a>
Nat RASC Anniversary Wrkg Group	Laurie Roche	
UVic Liaison	Alex Schmid	
Observing	David Lee	
Historian	Bill Almond	

### Online Resources

#### Magazines

[SkyNews](#) Our National RASC Newsletter  
[Sky & Telescope](#) Magazine  
[Astronomy](#) Magazine  
[Astronomy Now](#) Astronomy in the UK  
[Amateur Astronomy](#) Magazine  
[Astrophotography](#) Magazine



The centre has telescopes for new and seasoned observers that members can use. Contact Sid Sidhu from the email list