NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC

VOLUME 2021 ISSUE 2 MARCH APRIL 2021

Paul Sykes Lecture – Thurs, Apr 8 @ 7:30pm

Strange New Worlds: Is Earth Special?

Dr. Phil Plait, The Bad Astronomer

Virtual lecture on Zoom (see Meetup for link)

On Thursday, April 8, 2021 at 7:30 pm, please join us on Zoom for our annual Paul Sykes Memorial Lecture. See Meetup or our website at www.rasc-vancouver.com for the Zoom link for the talk.

This annual lecture is held in memoriam of Paul Sykes, who passed away in October of 2005. Paul was an RASC Life Member and avid supporter. Upon his passing, he bequeathed a substantial sum that has kept your Vancouver Centre financially solid for the last 16 years.

For as long as he can remember, Dr. Phil Plait has been in love with science.

"When I was maybe four or five years old, my dad brought home a cheapo department store telescope. He aimed it at Saturn that night. One look, and that was it. I was hooked," he says.

After earning his doctorate in astronomy at the University of Virginia, he worked on the Hubble Space Telescope as a NASA contractor at the Goddard Space Flight Center. He began a career in public outreach and education with the *Bad Astronomy* website and blog, debunking bad science and popular misconceptions. The book *Bad Astronomy* was released in 2002, followed in 2008 by *Death From The*

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MARCH 11 ZOOM	APRIL 8 ZOOM	MAY 13 ZOOM
Howard Trottier on the Not-So-sSecret History of the Trottier Observatory at SFU. Zoom details on Meetup.	Our annual Paul Sykes lecture, featuring Dr. Phil Plait (aka The Bad Astronomer). See above for details. Zoom link available on Meetup.	Speaker TBA. See Meetup for updates.

Life on Mars?

by J. Karl Miller

NASA/JPL-Caltech/ASU/MSSS

The recent landing of the newest Martian Rover (named Perseverance) on February 18, 2021 is truly amazing. The engineering resources deployed to reach this highly difficult goal are overwhelming. Perseverance has as one of its main tasks the finding of possible traces of past or present life on Mars. There are several new and proven sensing, imaging, and analyzing devices on board, in addition to others of Mars-proven technologies. Congratulations to everyone who is involved with and contributes to this astounding feat.

The picture shows a bleak, dry, and waterless landscape, unlikely to be very hospitable to life. But we have images of what appear to be momentary water flows on some Martian crater slopes. We know from past rovers that, in some areas, water ice is present close to the surface. That is a driving reason behind the plans to land people on Mars in future.

This landing achievement, the activities planned for this most complex of Martian rovers, and the recent close opposition of Mars in our sky, made me think of a book my mother gave me in 1953, knowing my interest in astronomy. The book's contents address the idea that life of some kind exists everywhere in the universe. Its title is (translated from German) *What Lives on the Stars*; in it, the author, Desiderius Papp, describes the intense human fascination with extraterrestrial life during the period in the late 1920s. I had a look into that book again while writing this.

Humanity has for ages "populated" Mars (and the other planets, and some of their moons) with some type of life, usually at least equal, if not superior to us. In the later part of the 1920s, a lot of people again speculated about the existence of extraterrestrial life on the planets of our solar system. The beginning of this period seems to have been based on the Mars drawings by the astronomer Giovanni Schiaparelli, who observed Mars for many years in the 1870s and beyond. Some of these drawings show thin lines, which he labelled "canali" (channels), later translated by others as "canals."

Schiaparelli's visual images were produced using a modest telescope (by today's standards) at an observatory in northern Italy, working near the limits of its capabilities. As a conscientious observer, he must have had some doubts about the lines he saw, asking himself whether they were optical illusions or real. Many other astronomers of renown never saw these channels. In the 1920s, on and after the 50th anniversary of Schiaparelli's publication of his drawings, the general public got excited over the idea that these supposed canals were the product of highly intelligent and accomplished beings, trying to save their existence by collecting the meltwater from Mars' icecaps, realizing that their planet was rapidly losing its water.

It seems that Schiaparelli never promoted those ideas himself (he died in 1910). However, there were numerous people who expanded this concept;

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President's Message

by Gordon Farrell

Sometimes it pays to cold-email someone.

Such was the case when our past-president, Leigh Cummings, reached out to Phil Plait to see if he'd speak to us. I first stumbled upon Dr. Plait's blog back in 2000, where he critiqued movies for their accuracy (or, more often, inaccuracy) in depicting astronomy and space travel. I've since followed his writing on various sites as he seeks to inform and entertain the public about astronomy and other scientific topics and to debunk a seemingly endless list of space-based hoaxes that rear their heads over and over again (no, asteroid such-and-such isn't going to destroy the Earth next Tuesday). I also enjoyed his Discovery series, *Phil Plait's Bad Universe*, back in 2010 and his blog on the SyFyWire site continues to be regular lunchtime reading for me. So I'm delighted that he has agreed to be our Paul Sykes speaker this year (see the cover page for the details). My only regret is that this has to be a virtual lecture this year due to the pandemic so we won't be able to treat him to our customary dinner out with the Vancouver Centre council.

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About RASC

The RASC Vancouver Centre meets at 7:30 PM on the second Thursday of every month at SFU's Burnaby campus (see map on page 4). Guests are always welcome. In addition, the Centre has an observing site where star parties are regularly scheduled.

Membership is currently $89.00 per year ($52.00 for persons under 21 years of age; family memberships also available) and can be obtained online, at a meeting, or by writing to the Treasurer at the address below. 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 the Trottier Studio in the Chemistry wing of the Shrum Science Centre at SFU. Please contact a council member for directions.

2021 Vancouver Centre Officers

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Honourary President 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

rasc-vancouver.com
astronomy.meetup.com/131/
www.facebook.com/RASC.Van
www.instagram.com/rascvancouver/
@RASCVancouver

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PO Box 89608
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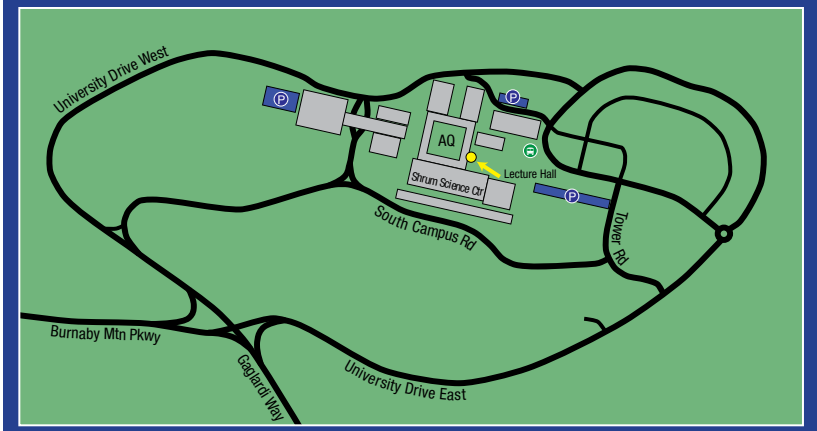
V5A 4Y0

Map to Meeting Site



IMPORTANT NOTICE:

Our lectures have moved online until further notice due to COVID-19 and SFU having shut down most on-campus activities.

We will resume our physical lectures at SFU once is it deemed safe to do so.

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Skies! He was most recently seen in *"Crash Course Astronomy,"* a 46-part educational web series he wrote and hosted that has over 20 million views. He hosted the TV show *"Phil Plait's Bad Universe"* on the Discovery Channel in 2010 and was the head science writer for *"Bill Nye Saves the World"* on Netflix, which debuted in 2017. Dr. Plait's blog has been hosted by Discover Magazine and Slate, and is now on Syfy Wire.

Dr. Plait has given talks about science and pseudoscience across the US and internationally. He uses images, audio, and video clips in entertaining and informative multimedia presentations packed with humour and backed by solid science.

He has spoken at NASA's Kennedy Space Center, NASA's Dryden Flight Research Center, the Space Telescope Science Institute (home of Hubble), the Hayden Planetarium in NYC and many other world-class museums and planetaria, conferences, astronomy clubs, colleges & universities, and community groups. He has appeared on CNN, Fox News, MSNBC, Pax TV, Tech TV, Syfy, Radio BBC, Air America, NPR, and many other television and internet venues. His writing has appeared in *Discover* magazine, *Sky & Telescope*, *Astronomy* magazine, *Night Sky* magazine, Space.com, and more.

Synopsis: Since the 1990s, astronomers have found over four thousand (and counting!) exoplanets, alien worlds orbiting other stars. These planets orbit a wide variety of stars, and themselves are all wildly different; huge, small, hot, cold, airless, or with thick atmospheres. As we learn more about them, we come closer to answering the Big Questions: Is there another Earth out there? And if so, will it support life? Is Earth unique, or is the galaxy filled with blue-green worlds that look achingly like our own? In this engaging and fun talk, astronomer Phil Plait will show you how we find these planets, and how our own compares to them. ✸

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well-known scientists, poets, researchers, and authors of phantasy literature, comics etc., all contributed. One popular astronomer (Camille Flammarion) had no compunctions about stating that these canals were, without a doubt, the result of beings with immensely superior logic and capabilities. Flammarion and other people produced amazingly detailed maps of Mars and the canals, the location of supposedly large cities, possible transportation methods, and plant life, many of these ideas amazingly anthropological. One well-known explorer of Mars (Percival Lowell, business man, mathematician, astronomer, author) used his own fortune to build a then state-of-the-art observatory in 1893-1894 at Flagstaff, Arizona, dedicated to the exploration of Mars. He died in 1916, but the Lowell Observatory is still in use today. The observatory's telescope was later used by Asaph Hall, in 1933, to find the then outermost planet in the solar system, Pluto. Hall

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I'm also happy to report an honour that has been bestowed upon one of our members, Ian McLennan. As those who have seen any of Ian's talks on planetariums would know, he was the first director of the Queen Elizabeth II Planetarium in Edmonton. Now the city has renamed the access road to the planetarium "Ian McLennan Way" in his honour!

From the official media release:

For the past 60 years, Ian has been a driving force in astronomy education and the development of science centres and planetariums around the world. Ian currently lives in Vancouver but remains closely connected to the city and to TELUS World of Science – Edmonton.

"The pride our City and the planetarium community feels about Ian McLennan's accomplishments over the years is undeniable," said Alan Nursall, President & CEO, TELUS World of Science – Edmonton. "In his role as the first Director of the QEP, Ian was crucial in setting up the facility for success. Ian's inspired leadership established the foundations of excellence which would guide the facility through its 23 years of operation. In fact, the QEP was so successful that it led to the creation of Canada's largest planetarium, inside the Edmonton Space Sciences Centre (now named TELUS World of Science – Edmonton). That facility opened in July 1984 and continued the amazing space science education work that Ian initially began inside the Queen Elizabeth Planetarium."

"I am so honoured to be recognized in this way," said Ian McLennan. "My career, my family and a huge part of me will always be in Edmonton. And the Queen Elizabeth Planetarium holds such fond memories. Now, I simply can't wait to return to the city and officially drive down 'Ian McLennan Way'!"

Support for this naming initiative was received from CTV Edmonton, the International Planetarium Society, Councillor Bev Esslinger, Woodcroft and Inglewood Community Leagues, and TELUS World of Science – Edmonton.

Congratulations, Ian! ✸

The recently restored Queen Elizabeth Planetarium in Edmonton

Membership has its Privileges!

Are you tired of looking at the same objects again and again (planets, moon, etc.)? Is your telescope collecting dust because it's hard to locate deep sky objects? Would you like to bring your observing to a stellar level? Robert Conrad, our new observing director, revived the Vancouver RASC observing group and invites you to join by sending him an email at observing@rasc-vancouver.com. Some of the benefits of belonging to this group include:

- Hands on training on how to operate the SFU Trottier observatory
- Weekly observing sessions at the observatory or at dark sky locations
- One-one-one coaching on how to locate thousands of objects in the night sky
- Attend small interactive seminars delivered by Robert on a range of topics including failsafe star-hopping, charting challenging objects and understanding the motions of the cosmos
- Learn to make your telescope dance by locating objects such as asteroids, nova, and supernovae
- Spectroscopy and imaging training from Howard Trottier and an opportunity to collaborate on observatory research projects
- Updates on observable sky events happening during the week like asteroid/comet/deep sky conjunctions
- Access to observing guides and lists that Robert created that took hundreds of hours to create and will help with planning observing sessions
- Knowledge and expertise from other observing group members
- Learn how to quickly and efficiently find and star-hop to deep sky objects using a range of binoculars and telescopes

Upcoming Events

May
8 – Virtual Astronomy Day at SFU

August
7 - 15 – Mt. Kobau Star Party

September
4 - 12 – Merritt Star Quest

December
12 – AGM

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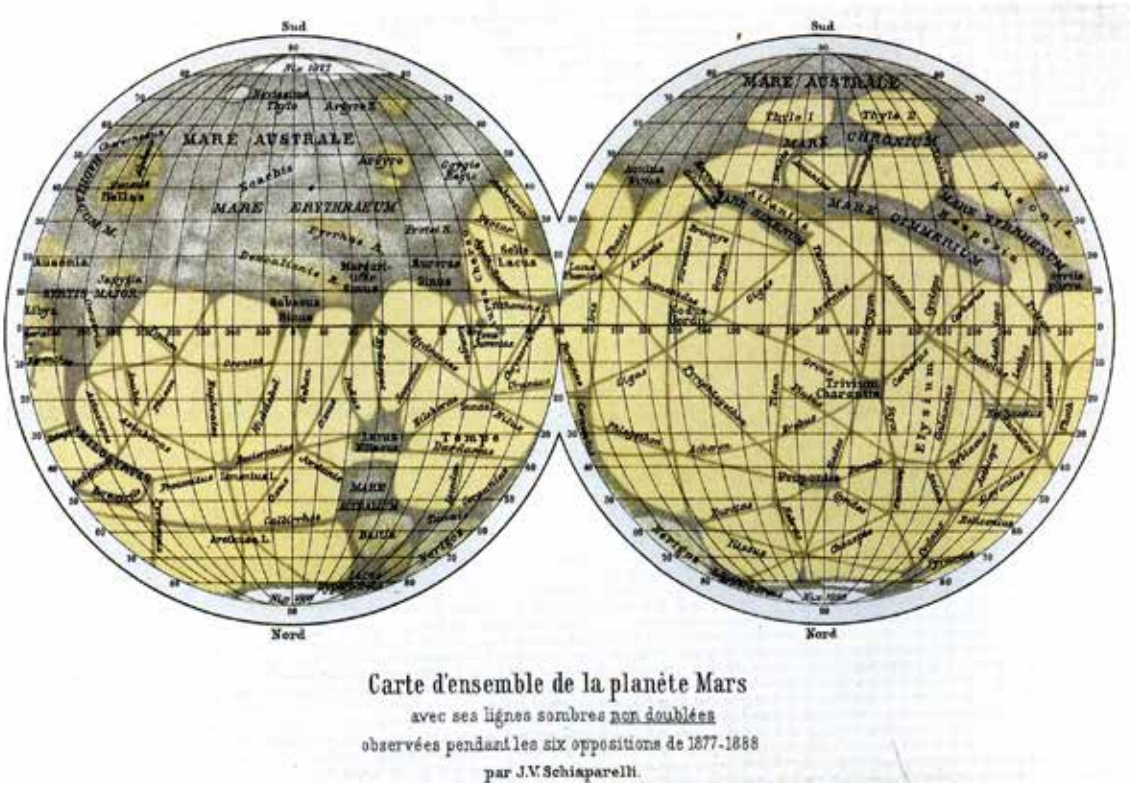
was also the astronomer who found the two moons of Mars, Phobos and Deimos, in 1877, before the existence of the Lowell Observatory.

We now know the topology of the Martian surface in reasonable detail. The landscape is indeed complex in many areas, and a number of hints point to the existence of rivers and lakes in the early history of Mars, with canyons and valleys in existence which, however, show no hint of artificial creation. Perhaps Schiaparelli got the first glimpses of something that looked a little like his canali, but we have seen no water canals built by some intelligent and logical beings.

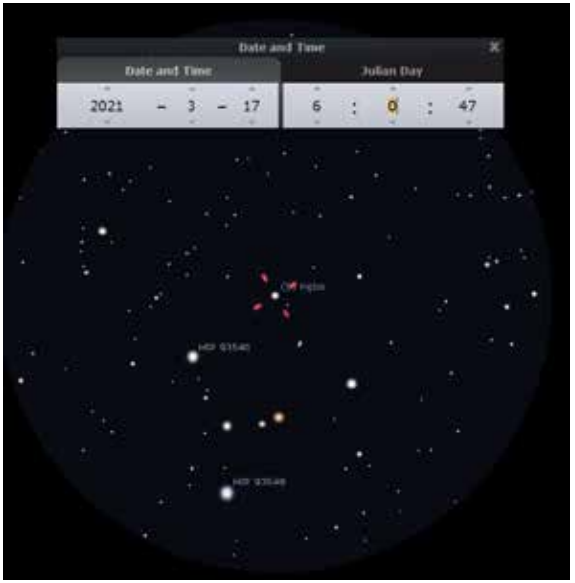
I think that the events referred to above contributed to the path that lead to the efforts referenced at the beginning of this article. We are still looking for life forms that will confirm that we (that is, all life on Earth) are not alone in the universe. From the past and present data sent back by many of the orbiting Mars satellites, on-the-surface moving rovers, and fixed sensing stations, a life as fantasized above is not very likely. At the moment, though, we still cannot answer the questions: is there now or was there ever any life as we know it on Mars? Perhaps any life as we *don't* know it? ✸



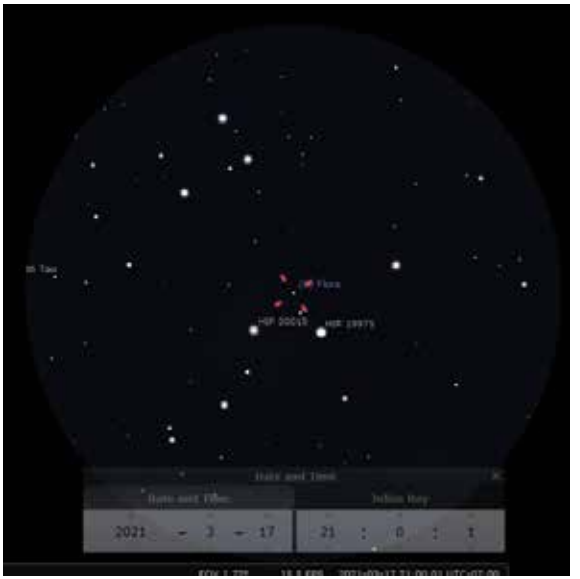
One of Giovanni Schiaparelli's Mars maps (Wikimedia Commons)

Astronomical Events in the Remainder of March by Robert Conrad

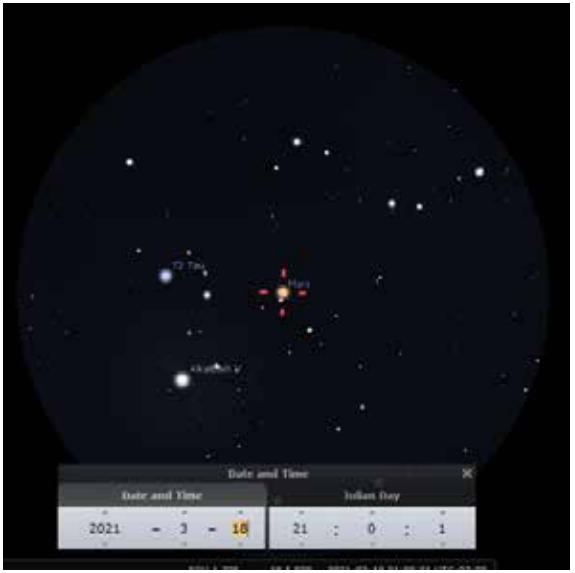
Here are some astronomical events that you will want to view with a telescope of any size:



Wednesday March 17th around 6:00 am:
(left) Asteroid Hebe (Magnitude 10.8) will be near a nice star pattern between the constellations Aquila and Scutum.



Wednesday March 17th around 9:00 pm:
(right) Asteroid Flora (Magnitude 10.7) will be near a nice star pattern in the constellation Taurus.



Thursday March 18th around 9:00 pm:
(left) Mars (Magnitude 1.15) will be near a nice star pattern in the constellation Taurus.

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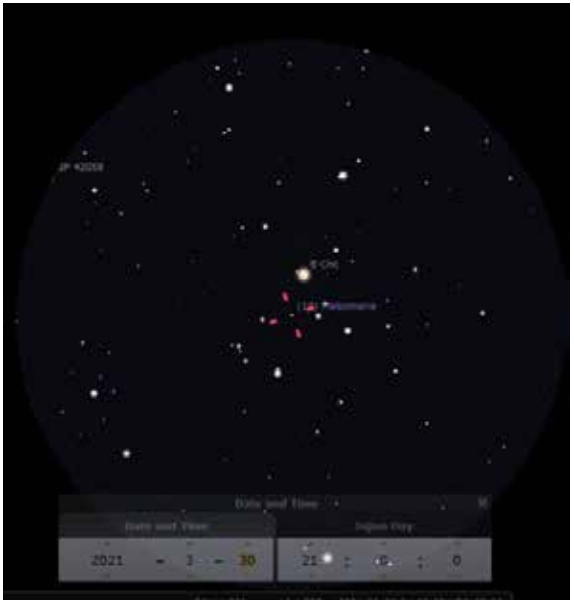
Saturday March 20th around 9 pm:
(left) Uranus (magnitude 5.9) will be in the same telescope wide angle field of view as the 12th magnitude asteroid Fortuna between the constellations Cetus and Aries.

Saturday March 20th around 9 pm:
(right) Mars (magnitude 1.2) will perform a near occultation with a magnitude 7 star in the constellation Taurus.

Sunday March 21st around 11 pm:
(left) Asteroid Vesta (magnitude 6.26) will be in the same telescope field of view as galaxies NGC 3507 (magnitude 10.4) and NGC 3501 (magnitude 12.67). Both NGC 3507 and NGC 3501 are interacting galaxies.

Thursday March 29th around 9:00 pm:
(left) Mars (Magnitude 1.3) will be near a nice star pattern in the constellation Taurus.

Tuesday March 30th around 11:00pm:
(right) Asteroid Vesta will be in tight conjunction with a star of magnitude 8.7 in the constellation Leo.



Tuesday March 30th around 9:00pm:
(left) Asteroid Melpomene (magnitude 10.9) will be near one of the brighter stars in the constellation Cancer, Theta Cancri (magnitude 5.3).

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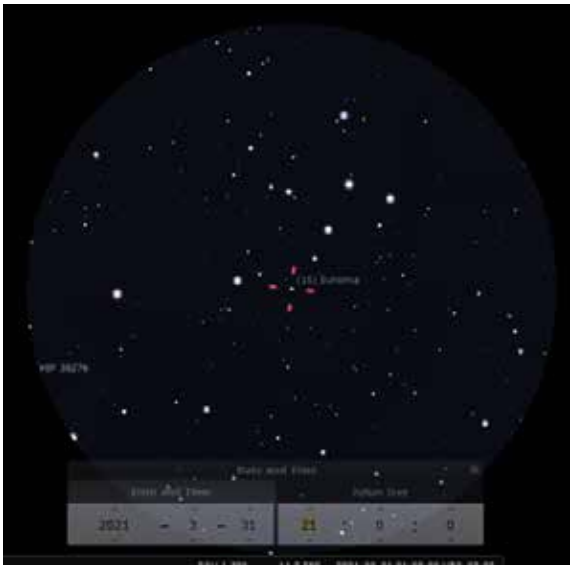

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Wednesday March 31st around 9:00pm:
(left) Asteroid Eunomia (magnitude 10) will be in the same telescope field of view as many other magnitude 8 stars in the constellation Gemini. ✸

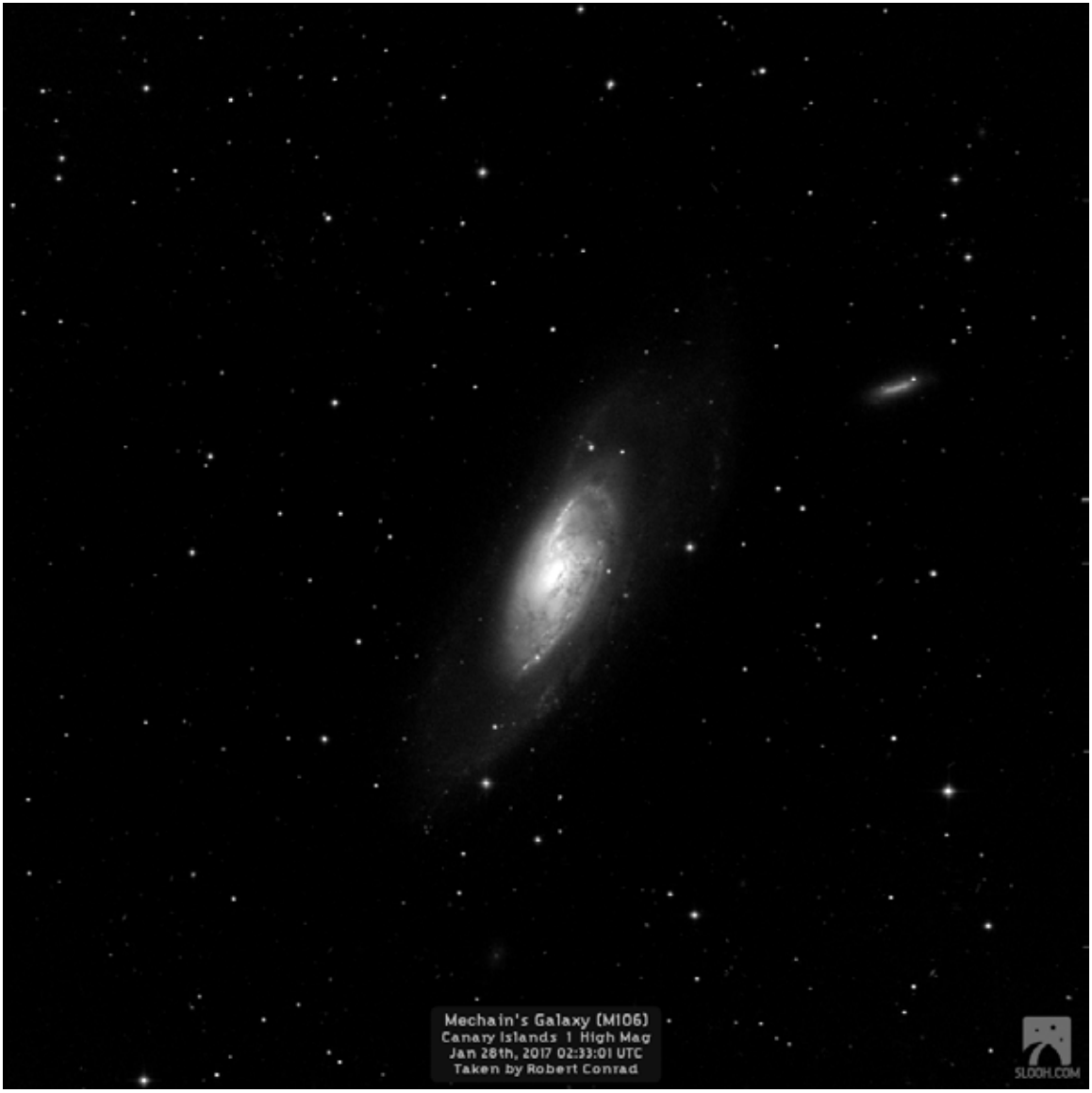
Members' Gallery

First Quarter Moon

by Gordon Farrell

Taken on the same night as the Jupiter/Saturn conjunction on Dec. 22 of last year, this image was minimally processed in Photoshop to adjust the exposure.

Photographed through a Celestron C5 telescope on a tracking mount via a Canon 5D Mark IV attached by a 2" T-adaptor using a 1/1250s exposure at ISO 1600.



Mechain's Galaxy (M106) by Robert Conrad

Taken using the Slooh remote-controlled telescope in the Canary Islands on January 28, 2017.

The Elephant Trunk Nebula by Ken Jackson

The Elephant Trunk Nebula is located in the constellation Cepheus. The dark regions are areas of cloud and dust that block visible light. The Elephant Trunk lies within the larger emission nebula IC 1396 where electrons in hydrogen emit red photons corresponding to the Balmer H-alpha transition. Taken on Sept. 9th, 2020 from Coquitlam through an Skywatcher Esprit 80mm refractor using a ASI533 camera and Optolong l-enhance filter. Stacked and processed 140 x 60 sec subs using Astro Pixel Processor.