

Newsletter of
The Black River Astronomical Society

Guidescope

Lorain County, Ohio

March 2019

Website: blackriverastro.org

Newsletter submissions: [Editor](#)

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Please check the website blog for any weather-related cancellations of meetings or observing sessions.

--Wednesday, March 6, 7 p.m.: Regular meeting, Carlisle Visitors Center.
Trip to Pahrump, Nevada, by Dave Lengyel

--Friday, March 8, 8-10 p.m.: Public observing, Nielsen Observatory (cloud backup date Saturday, March 9, 8-10 p.m.)

-Thursday, March 14, 7 p.m.: Board meeting, Blue Sky Restaurant, Amherst

--Friday, March 29, 9-11 p.m. (note time change post-DST): Public observing Nielsen Observatory (cloud backup date Saturday, March 30, 9-11 p.m.)

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Visit Our Website

Explore if you will the informative BRAS [website](#) and all its interesting, timely [links](#), and join the interactive members-only [BRAS Forum](#) to better keep in touch.

Guidescope Contributions Wanted

If you have any astronomy-related wanted/for sale announcements, photos you've taken, interesting article links, equipment reviews, observing reports, essays, or anything to which that you think the local amateur astronomy community could relate, please send it to your [humble Guidescope editor](#) for inclusion in forthcoming issues.

In Memoriam: Greg Honis and Larry Janowicz

Greg died February 2nd, and was a current member of the board of directors. He had been an active member for many years. As well as a telescope builder and gadgeteer (his all-sky camera using a chrome hubcap comes to mind) Greg was an enthusiastic observer, livening up innumerable star parties.

Larry died February 23rd, was a past board member and treasurer, and an active member for many years. He, with Lee Lumpkin and Mike Harkey, was a key player in the negotiations involving the process of acquiring the Nielsen telescopes and the funding for building the Nielsen Observatory.

BOARD SUMMARY

February 14, 2019

The February Board of Directors meeting was convened at 6:59 p.m. with eight Directors present. The minutes of the January meeting were read and approved as was the Treasurers report. Next came reports from our standing committees with Bill Ruth, the *Guidescope* editor, reporting that all was well and that he had some submissions from members which are always encouraged. The website appears to be running as expected and there was no instrumentation report as no one had been to the observatory in the last month due to the weather. The OTAA and Metro Parks liaison had no reports.

Programming is as follows:

March	Dave Lengyel	Trip to Pahrump
April	Tim Kreja	Colonization of Mars
May	OPEN	
June	Denny Bodzash	Astronomical Automobiles
July/August	OPEN- an exchange of programs with MVAS is planned for July or August (tentative)	
Sept.-Nov.	OPEN	

Old Business came next with several sad items. One was a report on the funeral of Greg Honis who was a long time member of the club and a recently elected Board member. Several club members attended. Greg's sister stated that she wanted to sell one of Greg's telescopes, and might want to either sell or donate one of his Dobs to the club. She was given the President's email in case she wanted to go forward.

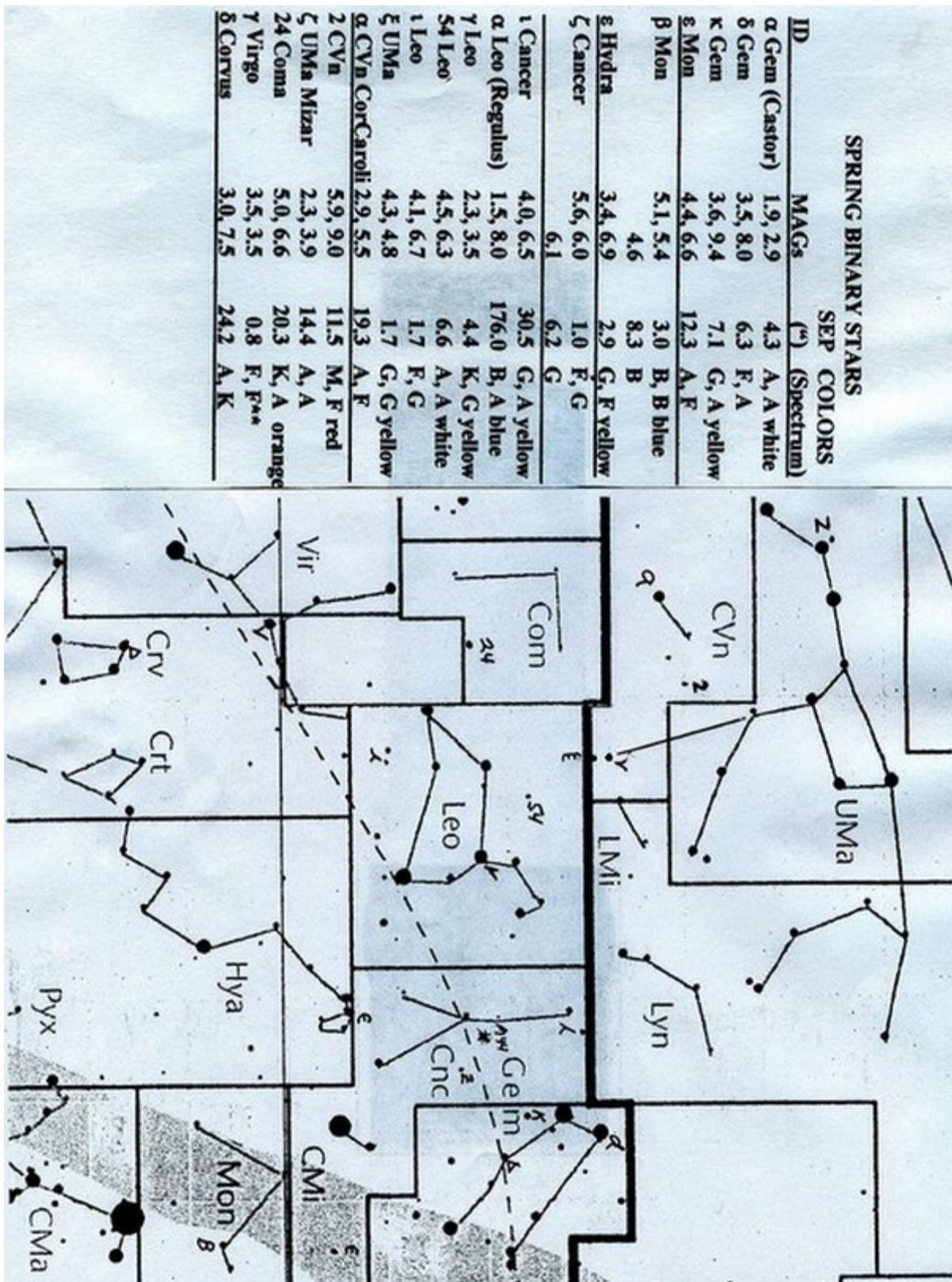
Also, around Christmas, Gary Smith was hospitalized with a brain bleed. He is recovering, but we gather progress is slow. He is in our thoughts.

The final item was a reminder from Schauer that the Dark Skies, Bright Kids program, put on by the Avon Lake Parks and Rec. Dept., was Friday Feb. 15th. Greg Zmina, Mickey Hasbrook, Dan Walker, Jeff Walsh and Steve Schauer were committed to attending.

New Business came next with only one item on the agenda. Schauer distributed sample copies of a survey the Board would like to have club members take. The intent of the survey is to gain some demographic info about the membership, but mostly to get feedback from members on programs they would like to hear, activities they would like the club to engage in and suggestions for improving the organization. The intent is to give out the surveys at a General Meeting and give members time to fill them out. This would be done at several meetings in a row, probably in late spring and early summer, so that people who happen to miss a meeting or two, could still have the opportunity to respond. We would like to give out the surveys every few years to track changing interests as new members join and things change. The Board looked over the surveys, and will take them home for a closer perusal. They will then bring suggestions, for additions, deletions, or changes to the March meeting.

Dates for March were set, and the meeting adjourned at 8:25 p.m.

~Steve Schauer



Courtesy of John Reising

Deep-Sky Objects for March

Objects for Binoculars							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
08 ^h 13.1 ^m	-05°48'	M48	m5.8v	54'		Hya	Open Cluster, 80 stars
08 ^h 40.1 ^m	+19°57'	M44	m3.1v	95'		Cnc	Open Cluster 50 stars, "Beehive or Praesepe"
08 ^h 50.4 ^m	+11°49'	M67	m6.9v	29'		Cnc	Open clusereter 200 stars
08 ^h 46.7 ^m	-28°46'	48 (Iota-1)	4.2, 6.6	30.5"	307°	Cnc	Double Star
13 ^h 23.9 ^m	+54°56'	79+80 (Zeta)	2.3, 4.0	14.4"	150°	Cnc	Double Star
Objects for Small Telescopes (2-6 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
06 ^h 26.8 ^m	+58°25'	5 Lyn	5.3, 9.8	31.4"	139°	Lyn	Triple Star (3 rd star 7.9, 96", 272")
08 ^h 52.7 ^m	+33°25'	NGC 2683	9.8v	8.4'x2.4'		Lyn	Galaxy, type SA(rs)b II-III
09 ^h 55.6 ^m	+69°04'	M81	m6.9v	24.0'x13.0'		UMa	Galaxy, type SA(s)ab I-II
09 ^h 55.8 ^m	+69°41'	M82	m8.4v	12.0'x5.6'		UM	Galaxy, IO
10 ^h 24.8 ^m	-18°38'	NGC 3242	m7.8v	>16"		Hya	Plan. Neb. "Ghost of Jupiter"
Objects for Medium-Size Telescopes (8-14 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
08 ^h 26.8 ^m	+26°56'	23 Cnc (Phi-2)	6.3, 6.3	5.1"	218°	Cnc	Double Star
08 ^h 33.4 ^m	-16°09'	NGC 2610	m12.8v	37"		Hya	Planetary Nebula
08 ^h 48.3 ^m	+00°33'	OE194	7.3, 10.8	12.6"	56°	Hya	Double Star
08 ^h 49.2 ^m	+60°13'	NGC 2654	m11.8v	3.8'x0.7'		UMa	Galaxy, type SBab: sp II-III
09 ^h 10.3 ^m	+07°02'	NGC 2775	m10.1v	4.6'x3.7'		Cnc	Galaxy, type SA(r)ab
09 ^h 31.5 ^m	+63°04'	23 UMa	3.7, 8.9	22.7"	270°	UMa	Double Star
09 ^h 32.2 ^m	+21°30'	NGC 2903	m9.0v	12.0'x5.6'		Leo	Galaxy, type SAB(rs)bc I-II
Objects for Larger Telescopes (16-inch & larger) Challenge Objects							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
07 ^h 38.1 ^m	+38°53'	NGC 2419	m10.3v	4.1'		Lyn	Glob. Cl. "Intergalactic Wanderer"
08 ^h 14.7 ^m	+49°04'	NGC 2541	m11.8v	7.4'x3.3'		Lyn	Galaxy, type SA(s)cd
08 ^h 54.2 ^m	+08°55'	PK219-31.1	m12.0v	>980"		Cnc	Planetary Nebula (use O-III filter)
08 ^h 54.2 ^m	+30°35'	57 Cnc (Iota-2)	6.0, 6.5	1.4"	316°	Cnc	Double Star
09 ^h 19.8 ^m	+33°44'	NGC 2832	m11.9v	3.0'x2.1'		Lyn	Galaxy, type E+2: (In Abell 779 galaxy group)
09 ^h 45.7 ^m	-14°20'	NGC 2992	m12.2v	4.0'x1.2'		Hya	Galaxy, type SO pec sp
09 ^h 45.8 ^m	-14°22'	NGC 2993	m12.6v	3.3'x1.8'		Hya	Galaxy, type IO? Pec

Print and use the [Deep-Sky Interest Group - Observation Form](#) to record your observations.

Courtesy of Len Jezior

NASA: 'Opportunity' Rover Dead

NASA has just made a long-expected declaration: its long-lived *Opportunity* rover is dead. This comes following months of trying and failing to contact the rover, which went silent following a planet-sized dust storm that erupted in June, 2018. With the end of the mission, this truly marks the end of an era in Martian exploration.

Launched way back on July 7, 2003 and landing on January 25, 2004, NASA's twin Mars Exploration Rovers (*Spirit* was the other) were the second generation of Mars rover and were designed to have a mission life of 90 days. While this does not seem long, 90 days is a lot longer than the 7 days of design life expected for the first Martian rover, *Sojourner* (1997).

Launched for the Red Planet in 2003, a time which coincided with the closest Earth-Mars approach in thousands of years, *Opportunity*, along with its twin rover, *Spirit*, started their journey through space in the hopes of fulfilling a planetary scientist's dream of a large, long-lived, roving vehicle that was to serve as a mobile science platform. In the mission statement, *Opportunity* and *Spirit* were given a 90 day life estimate during which they would try to confirm the existence of water on Mars.

That was at the rovers' arrival in January, 2004.

Their initial mission to look for signs of water on Mars completed within the 90 day time frame, both rovers were still going strong. So, officially living on borrowed time, NASA scientists decided to try and get as much out of the rovers as possible before they too went the way of Pathfinder/Sojourner, Viking, and all the other Mars missions.

Needless to say, the rovers did not disappoint as they redefined our knowledge of Mars.

The mission started running into trouble in 2009, which is when *Spirit* got stuck. All attempts to free the rover failed and the mission was altered to be one of a stationary science platform. Unfortunately for *Spirit*, it was poorly positioned to harness solar energy in order to recharge its batteries during the coming Martian winter. The last communication with *Spirit* came on March 22, 2010 and the mission was declared over the following year.

While its twin was going through its final days, *Opportunity* kept right on going, redefining our collective knowledge of the Red Planet as it went.

Speaking on *Opportunity's* unimaginable longevity at the mission's 10th anniversary, John Callas, project manager for *Opportunity* at NASA's Jet Propulsion Laboratory (JPL), said that "these are magnificently designed machines . . . we really have greatly expanded the exploration envelope by having a vehicle that can not only last so long but stay in very good health over that time, such that we can continue exploring."

All told, *Opportunity* would travel over 28 miles on Mars, breaking the interplanetary vehicular travel distance long-held by the Soviet Union's *Lunokhod 2* (1973). Through all of this, aside from some software memory issues (which NASA was able to bypass), the rover remained in remarkably good 'health.'

Then came the dust storm of 2018.

In the beginning of June, a local dust storm began, which in and of itself was not a cause for worry. However, within a few days, the storm picked up intensity and eventually enveloped the entire planet. *Opportunity* was a solar powered rover and depended on the sunlight to recharge its batteries on a daily basis. With the dust storm persisting, the rover began to lose its ability to harness sunlight. The last transmission from the rover came on June 10, at which point it entered hibernation mode. NASA made its first attempts to contact the rover in October, after the storm subsided. There was no reply and fear was mounting that the rover had either suffered a catastrophic failure or that its solar panels were buried under a thick blanket of dust. A last ray of hope was the tendency for the Martian winds to pick up around the end of 2018 and into 2019. These seasonal windy periods had cleaned the rover's solar panels in years past but, come this trip around the Sun, they never materialized.

With hopes fading, NASA made one last attempt to contact the rover on February 12, 2019. When no reply came, NASA beamed its last transmission to the rover: the classic Billie Holiday song "I'll be Seeing You."

The mission was declared over the following day.

Now, as space enthusiasts remember the rover, it's still hard to comprehend that the mission lasted for 15 years. For a trip down memory lane, consider the following . . .

The majority of today's high school freshman class was born in 2004

At the start of 2004, Facebook, Gmail, Skype, Yelp and Firefox didn't exist

SpaceShipOne becomes the world's first private spacecraft

A 42" plasma TV costs \$4,000

The majority of digital cameras are 3MP in resolution

The world's first 1MP camera phone debuts

HDTV, DVR, satellite radio and Bluetooth are in their infancy

'Blogging' named new word of the year

iPods are all the rage

Drones are first used in the military

PC maker Gateway closes all its retail stores and IBM sells out to Lenovo

Electronic voting machines make their first appearance in the United States

The hacking group Anonymous is formed

~Denny Bodzash

My first view ever of the star Canopus, taken on 4/1/86 near Tucson, AZ. I used 1600 ASA film and a 25 sec exposure using an Exakta camera with 50mm lens. ~Dave Lengyel



Mercury, upper left; Mudd Nebula, lower right, from Oberlin College Observatory 2/25/19 7 p.m. ~Dave Lengyel

Meet the Author

100 Things to See in the Night Sky: From Planets and Satellites to Meteors and Constellations, Your Guide to Stargazing

Book by Dean Regas

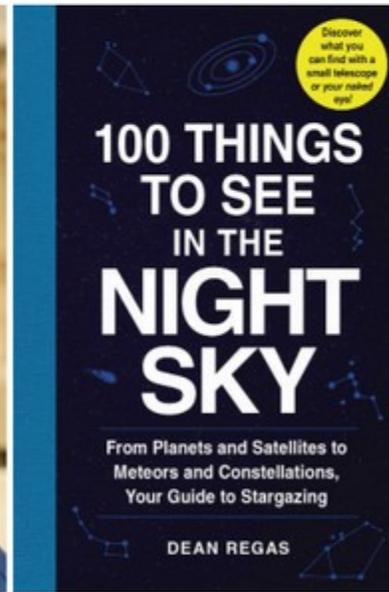
Rocket through space and sail among billions of stars and galaxies as author Dean Regas guides you through the universe. Utilizing amazing simulation software, you'll stop at the Moon and individual planets. Dean Regas has been the Astronomer for the Cincinnati Observatory since 2000 and is the co-host of Star Gazers, a backyard astronomy program airing on PBS stations around the world. Books will be available for sale and signing at this event.

When:

Thursday, March 7, 2019 at 7:00 p.m.

Where:

Main Library Auditorium
15425 Detroit Avenue, Lakewood, Ohio 44107-3829
(216) 226-8275



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