

NIGHTFALL

Huachuca Astronomy Club of Southeastern Arizona



HAC MEETING: Friday, May 8, 2009

7 pm, Cochise College, Sierra Vista, Rm. 305A/B

PLUS our monthly Show-N-Tells, upcoming event details, refreshments & NEW Exciting Door Prizes!

Speakers: Kim Rogalski

Topic: Title: "Are We Still Alone? ; a growing consensus in astrobiology"

STAR PARTY CORNER

Keith Mullen, Star Party Coordinator (520) 366-0049 email: repogazer@msn.com

Participation is the Lifblood of the Club!

I'm not going to bother you with a long list of apologies about why I haven't been to a single event aside from the monthly meeting last month. I hurt myself and I can't get out there. I hope to be back into the groove by the end of May and might see you at the MSP on the 23rd.

I noticed as early as Wednesday, April 29, that the park was filling with Carnie rides and I could almost smell the spilled beer and see the lights and hear the noise that will consume our traditional hallowed May astronomy grounds. We will have our night in the park later after the monsoons.

I missed both the star parties but was told that the PSP at JBO had a smaller than normal crowd because of wind, ditto with the MSP that Jim McCaw hosted at his WSO, but I want to thank both Dave and Jim for standing tall when the wind said, "Sit down".

May Star Party Schedule:

PSP/Astronomy Day was cancelled due to park scheduling conflicts, and will be rescheduled for later this fall.

MSP is a go at JBO on Saturday the 23rd -- so if you're not running off to RTMC, stop by and see Dave and I -- we will be there waiting.

C-Row Star B.Q. is just over a month away and all has been planned and arranged for since last fall. But we still could use a few more Celestron's out there with their owners.

NOTE: All attending HAC members will be required to wear their HAC ID BUTTONS and a HAC t-shirt if you own one.

STARIZONA
ADVENTURES IN ASTRONOMY & NATURE

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President's Perspective

Wayne Johnson

The year 2009, the International Year of Astronomy, seems to have gotten off to a rough start for observers in most of Arizona. We had high hopes for our first Sidewalk Astronomy event at the Mall of Sierra Vista in March until it was canceled because of inclement weather. Ever since then, for the most part, the weather has not cooperated though we had a couple successful observing events, including the fun Messier Marathon, where late night clouds tried, but couldn't interfere with our intrepid group of observers. Hopefully, beginning with the Public Star Party at Dave Healy's house, the tide will turn and once again we will start seeing some of the lovely night time vistas that Arizona is known for. And, yes, we are making plans for yet another Sidewalk Astronomy event in the near future, and one Sidewalk event that we are really planning for is the premier of the latest Star Trek movie, which should bring out a lot of young space enthusiasts whose energy it would be nice to channel into an interest in astronomy.

The months of May and June really should feature quality observing along with hot, dry days. We are looking forward to the C-Row Star Party at the Mullen's house and yet another Member's Star Party at Jim McCaw's place in J-Six Ranch.

As many of you know, I went to South Korea for a work assignment at Yong San Army Base near downtown Seoul. We stayed at the beautiful Hilton Millennium on the top floor of the 22 story hotel. It was interesting to see how different the skies of this megalopolis of 12 million people compared to ours here in southern Arizona; to say the city was light polluted would be an understatement! In addition to the bright lights of Seoul conspiring to hide the stars there was also some sort of brown haze that continuously hung over the city during my stay. Someone I talked to said that it was dust and pollen blowing in from China. Although no mention was made of air pollution, there was enough industry and automobiles in the city that I'm sure there was some indigenous production of smog. From my room in the hotel I was able to watch the sunrise every morning and was able to see a nice nearly full moon rise, too. The interesting thing about the sunrise was that you could observe the solar disk with your unaided eye as an orange orb until it was about five degrees above the horizon at which time it finally became too bright to gaze at. Here in Arizona it's nearly impossible to look at the sun even when it's on the horizon. The sun and moon were the only two celestial bodies I was able to see during my entire trip to Korea, except on the flight home when I caught a glimpse of the constellation Corvus' brighter stars and later in that evening flight I saw a most transfixing view of the gibbous moon! The sky is exquisite

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Yearly Membership: Individual: \$25; Family: \$35; Military: \$20; Student: \$10 (with restrictions)

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This issue of Nightfall can also be found on-line at hacastronomy.com. Click 'Newsletter' link. There is much more information about astronomy and our HAC activities on our club web site. *To join the HAC-LIST, send an email to haclist-subscribe@yahoogroups.com .

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at 40,000 feet altitude, even through the awful windows typical of an airliner. It's no wonder that people who come from an urban area like Seoul find it hard to believe that stars can be seen in the sky at all, let alone through a telescope. We have a lot to be thankful for with our night time skies. Let us hope that the skies I experienced in Seoul never become the norm for the rest of the world.

See you under the clear skies,
Wayne (aka Mr. Galaxy)

About the Speaker...

Kim Rogalski has been teaching at Cochise College since 1988. Not long after he arrived there he was astonished to discover there was no astronomy course taught at the school, mentioned his surprise, and then was commanded to teach it! He has a BS and a MS (1984 and 1986) in Mathematics from NAU and has taken too many Physics courses over the years to be very happy about that.

The talk will be about the possibility of the abundance of complex (metazoan) life in the universe.

I argue that we are alone. I've been doing this for years in astronomy class, but recently scientists in disparate fields have come together to examine the issue. See the April '09 Astronomy article "Is Earth One of a Kind?" and the excellent book by Ward & Brownlee "Rare Earth". The growing consensus is that complex life is probably quite rare in the universe due in large part to ample "dead zones" in both space and time - a cosmological argument, but there are many astronomical reasons to feel lonely as well. I speak about several of these reasons (while admitting that simple unicellular life is presumed to be common).

The talk will be organized by ...

- 1) A brief history of the question and a mention of the Drake equation.
- 2) What the talk is not about: extremophile contrasted with metazoan life forms
- 3) Reasons we are unusual in the contexts of...
 - a) Cosmology
 - b) Galactic astronomy
 - c) Stellar astronomy
 - d) Planetary astronomy
- 4) The issue of timing
- 5) Conclusion

Travels on the celestial sphere

Bob Kepple & Glen Sanner

Hydra is the largest and longest of all the constellations. Its outline from head to tail-tip extends nearly 100 degrees and its total sky area covers 1,303 square degrees. The Serpent's head, lying between Procyon in Canis Minor and Regulus in Leo, is the most distinctive part of the constellation. The head is the westernmost part of Hydra with the rest of the constellation extending SE. As we follow it eastward we come to Alphard, its brightest star lying next to the very faint constellation of Sextens. Continuing on Hydra passes by Crater, Corvus, and south of Virgo.

In mythology Hydra represents the multi-headed serpent which would grow two new heads for every one that would be cut off. Hercules got around this difficulty by burning the heads. Since it lies between the winter and summer Milky Way, the majority of the deep-sky objects in Hydra are galaxies, but it does contain a variety of other objects.

Messier 48 NGC 2548 Open Cl Dia 54'; Mag 5.8v; Br* mag 8.23v; RA 08h13.8m Dec -05°48'

M48 has been accepted as one of the missing Messier objects that he described in 1771. Lying 1,500 light years away, it is a large open cluster suited for small telescopes and binoculars. At low power in a 4 to 6-inch scope 50 stars are irregularly spread over a 54' area. In 8 to 10-inch scope over 65 stars may be counted.

NGC 3242 Planetary Neb Dia >16"; Mag 7.8v; Cen star 12.1v; RA 10h24.8m Dec -18°38'

NGC 3242 was named "The Ghost of Jupiter" by William Herschel because its disk reminded him of the planet Jupiter. 6 to 8 inch telescopes will show a fine, bright 35"x30" diameter bluish disk with a 12th magnitude central star at center. On a steady night 12-inch and larger instruments at higher powers will reveal a dark ring around the central star and a fainter outer oval ring extending out to 45"x35". This is an impressive sight and well worth observing.

NGC 5309 E1 Galaxy Dia 4.4'x3.1'; Mag 11.0v; SB 13.7 RA 10h36.6m Dec -27°31'

NGC 5311 SA0 Galaxy Dia 4.0'x3.6'; Mag 10.9v; SB 13.6 RA 10h36.7m Dec -27°32'

NGC 5212 SAb Galaxy Dia 3.4'x1.1'; Mag 11.8v; SB 13.1 RA 10h37.0m Dec -27°34'

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Space Place Partner Column

The Swiss Army Knife of Weather Satellites

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It's not what you might expect from a weather satellite. But these are just a few of the abilities of NOAA's newest polar-orbiting weather satellite, launched by NASA on February 6 and turned over to NOAA for full-time operations on February 26.

Formerly called NOAA-N Prime and now renamed NOAA-19, it is the last in its line of weather satellites that stretches back almost 50 years to the dawn of the Space Age. Over the decades, the abilities of these Television Infrared Observation Satellites (TIROS) have gradually improved and expanded, starting from the grainy, black-and-white images of Earth's cloud cover taken by TIROS-1 and culminating in NOAA-19's amazing array of capabilities.

"This TIROS series has become quite the Swiss army knife of weather satellites, and NOAA-19 is the most capable one yet," says Tom Wrublewski, NOAA-19 Satellite Acquisition Manager at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

The evolution of TIROS began in 1998 with NOAA-K. The satellites have carried microwave sensors that can measure temperature variations as small as 1 degree Celsius between Earth's surface and an altitude of 40 kilometers—even through clouds. Other missions have added the ability to track large icebergs for cargo ships, monitor sea surface temperatures to aid climate change research, measure the amount of ozone in Earth's protective ozone layer, and even detect hazardous particles from solar flares that can affect communications and endanger satellites, astronauts in orbit, and city power grids.

NOAA-19 marks the end of the TIROS line, and for the next four years it will bridge the gap to a new series of satellites called the National Polar-orbiting Operational Environmental Satellite System. NPOESS will merge civilian and military weather satellites into a single system. Like NOAA-19, NPOESS satellites will orbit Earth from pole to pole, circling the planet roughly every 100 minutes and observing every location at least twice each day.

NPOESS will have yet more capabilities drawn from its military heritage. Dim-light sensors will improve observations of the Earth at night, and the satellites will better monitor winds over the ocean — important information for ships at sea and for weather and climate models.

"A lot more capability is going to come out of NPOESS, improving upon the 161 various environmental data products we already produce today," Wrublewski says.

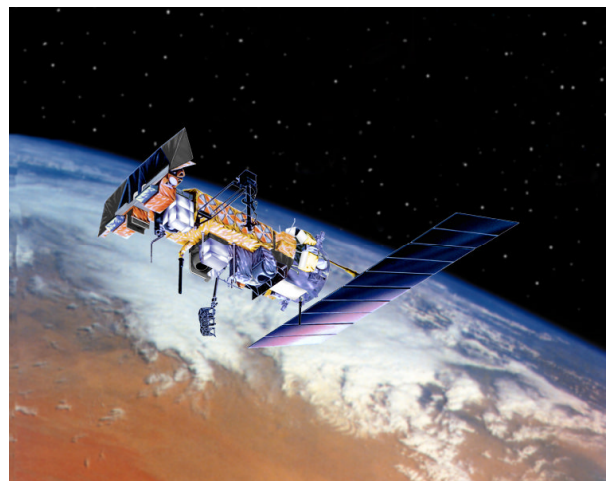
Not even a Swiss army knife can do that many things, he points out.

For more on the NPOESS, check out <http://www.npoess.noaa.gov>. Kids can find out about another NOAA satellite capability—tracking endangered migrating species—and play a fun memory game at http://spaceplace.nasa.gov/en/kids/poses_tracking.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration

Caption:

The new NOAA-19 is the last and most capable in the long line of Television Infrared Observation Satellites (TIROS).



Outreach News

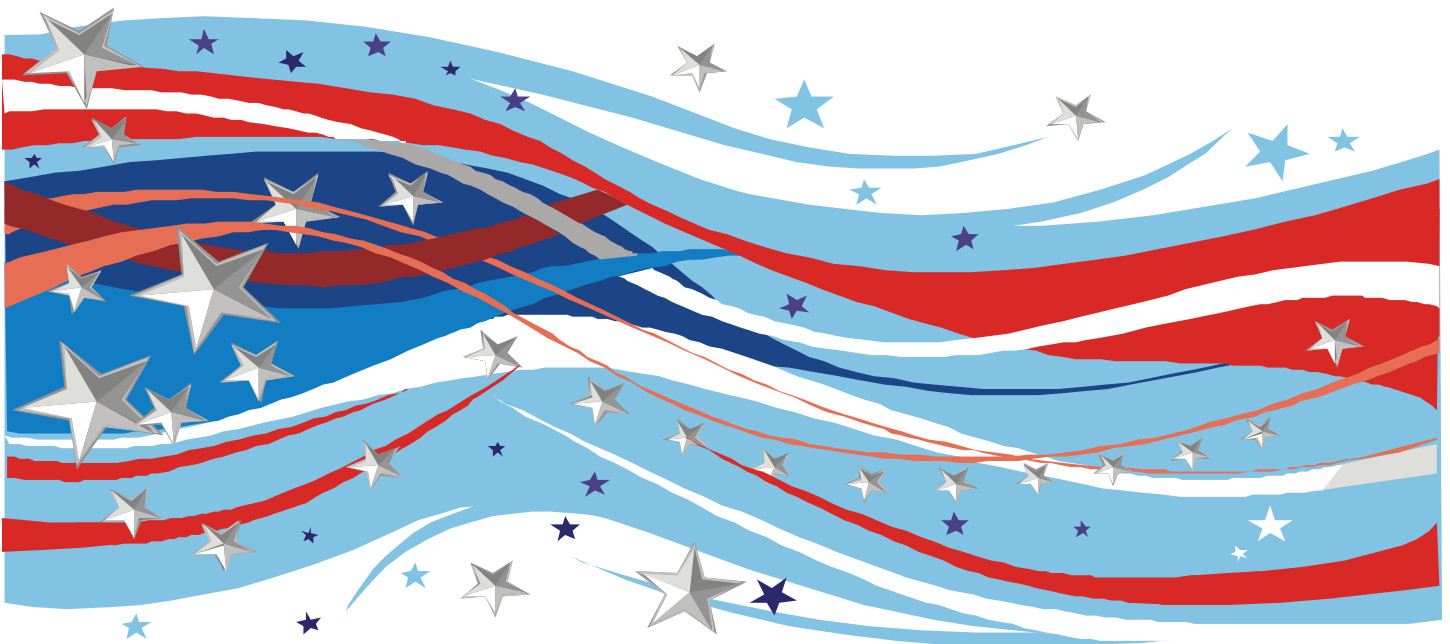
May is here and that can only mean two things. The first is that the evenings are starting to be warmer. The second is that the requests for outreach are starting to pick up.

Of course it all starts with Fred Stahl's kids coming down from Phoenix to see that there really are stars in the nighttime sky. The final two shows to be held at **Huachuca Oaks Campground** are **29 April (sunset is 7:00)** and **6 May (sunset is 7:05)**.

We also have a request for a new event on **May 13th at Elgin Elementary (sunset is 7:09)**. I don't have much information on this one yet, but I will put it out there as I find out. It would be greatly appreciated if anyone could find the time to help us introduce some young'uns to the night sky, especially since Keith is laid up. If you can support any event, as always, drop me an e-mail and I will put you on the list. Until next time....

Keep 'em lookin' up!

Swanee



(Continued from page 4)

These three galaxies lie near the center of the Hydra I Galaxy Cluster. We always enjoy viewing more than one object in the field and this galaxy cluster has more than its share of brighter galaxies even though it lies around 200 million light years distant. NGC 3311 is the brightest member of the group with NGC 3309 being second brightest. An 8-inch scope will show the members but larger instruments naturally show a better view. Through 12-inch scopes NGC 5309 appears fairly bright with a 2' diameter halo and a broad but weakly concentrated core. NGC 5311 has a 3' diameter slightly elongated halo with a faint stellar nucleus while NGC 5312 is elongated 3'x1.3' with a moderately concentrated core and a stellar nucleus, both halos are fairly faint.

NGC 3621 Sab Galaxy Dia 9.8'x4.6'; Mag 8.9v; RA 11h18.3m Dec -32°49'

NGC 3621 is a fine galaxy located within a large kite-shaped asterism. It is visible in small telescopes but due to its low declination at least an 8-inch scopes is needed for a good view. It has a large, bright core embedded in a diffuse 8'x5' N-S halo. In 20-inch telescopes some spiral pattern may be glimpsed.

Messier 68 NGC 4590 Globular Cluster Dia 12'; Mag 7.7v; RA 12h39.5 m Dec -26°45'

Messier 68 is a loose class ten globular cluster lying about 31,000 light years distant. It was first seen by Mechain in 1780 and Messier added it as his 68th catalog entry. It is easily seen in small telescopes but needs an 8-inch for partial resolution around the periphery. 16-inch scopes will reveal a 3' diameter core embedded in a 12' diameter halo having curved streamers of stars.

NGC 5150 SBc Galaxy Dia 1.5'x1.1'; Mag 12.6v; SB 13.5 RA 13h27.6m Dec -29°34'

NGC 5352 SBb Galaxy Dia 3.0'x1.0'; Mag 12.5v; SB 13.5 RA 13h27.9m Dec -29°37'

NGC 5253 E1 Galaxy Dia 1.7'x1.3'; Mag 12.3v; SB 13.0 RA 13h28.0m Dec -29°37'

As you may have guessed, we are partial to multiple object views. Here is another trio of fairly bright galaxies that may be seen in small telescopes. NGC 5352-53 form a fairly faint, nearly merged object with two nodules. NGC 5253, at the eastern end, is the more concentrated of the two. NGC 5150, lying 5' NW of the twin galaxies, shows a faint, round 1' diameter halo containing a well concentrated core with a double nucleus.

Messier 83 NGC 5236 SABc Galaxy Dia 15.5'x13'; Mag 7.6v; SB 13.2 RA 13h37.0m Dec -29°52'

M83 was discovered by Lacaille at the Cape of Good Hope in 1752, and Messier added it to his catalog in March 1781. It lies only 22 million light years away and is part of the Centaurus Galaxy Group. It is similar in size to our Milky Way Galaxy with a true diameter of over 100,000 light years. It is easily visible in small telescopes but at least an 8-inch scope is needed to appreciate its magnificent spiral arms. A 12-inch instrument shows a bright oval core inside a bright bar encircled by an interesting spiral arm pattern divided by dark lanes. This object lies in a low area that does not attract much attention so don't miss this fine galaxy.

Additional viewing suggestions: (NGC prefix omitted) 2784, 2835, 2986, 3109, 3717, 3923, 3936, 4105-06, 5061, 5078, 5101, IC 4351.



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*All makes and models of telescopes are welcome.