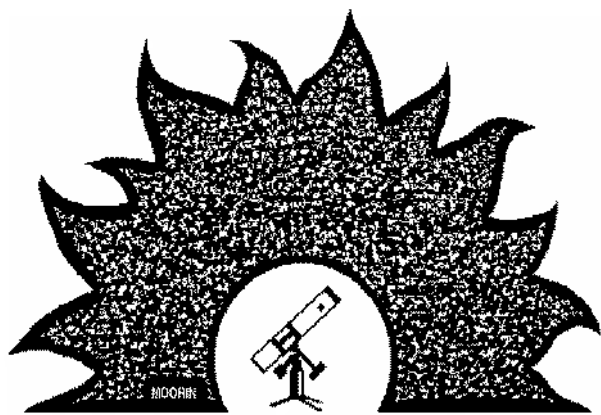




PAStimes

Phoenix Astronomical Society

www.pasaz.org

May 2017

Volume 68 Issue 9

PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

Ron Walker to Speak at May Meeting

"The Big Dream" by Ron Walker

I have an incurable disease called "Planetariumitis" and was stricken with it in my youth. It lay dormant for most of my life until about a decade ago when it attacked me once again. This strain, much more virulent than the earlier one, consumed mind, body, and soul since the reinfection. It is under control now as I regularly take doses of "Controlling The Universe". I invite you to join me as I tell the story of how this all came about. Even "Ming The Merciless" would be proud.



Ron Walker is the Guest Speaker for the May 2017 PAS Meeting. Ron provided the following caption with his photo: Spitz Jr test dome kind of small.

May 11th PAS Meeting

We have a great guest speaker coming to PAS this month. If you haven't been to Ron's planetarium in Cave Creek, it is a must visit as Ron puts on an excellent show every time. Ron's planetarium is free to PAS Members. He provides several shows each month, which can be found on the PASaz.org website in the Private Calendar.

The general meeting in May is when we hold the PAS Officer Elections. Come cheer on the next President, Vice President, Editor, and more, or become one of the Officers of PAS. There are several positions opening up this year. On page 3 of the April 2017 issue, you can read about the various positions within PAS that you may

wish to become a part of. We welcome you to join the fun of managing the club.

Please bring a snack to share. It is also helpful if you can donate a little extra money donated to the PAS Snack fund for the next month's water supply. Last month, no one donated - please help out, even if it's just a quarter.

Dinner at Chili's before the May PAS Meeting

By Terri, Event Manager

There will be a dinner prior to the May 11th meeting at 4:30 at Chili's on 3rd Street and Bell Rd in Phoenix. RSVP is required by the day before the meeting so that I can put in for the reservation the morning of

May 11th. Here's the link to RSVP: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2281&day=2017-46&c=1> If you are not a PAS Member and you want to attend dinner, drop me an email

at Events@pasaz.org to RSVP your attendance. Everyone is welcome, as long as you RSVP. It's a BYO (Buy Your Own) dinner) but it is a great way to meet the Guest Speaker. Hope to see you there!!!

Special Presidential Notice

By Sam Insana, President of PAS

(This notice went out via email to the PAS Members on May 1)

I wish to thank Paul Facuna, Peter

Turner, Howard Moneta and his mom Daniella for attending Earl DeLong's Celebration of Life at the Arrowhead Grill. We all had a good time talking to Earl's wife (Ani-

ta), children and sister. We also enjoyed the many pictures of Earl. I showed his family 10 photos of Earl at PAS events and they want me to send them copies. The food and

See May 11th Meeting on Page 6

President	Sam Insana	602-315-4750	President@pasaz.org
Vice President	Alex Vrenios	602 789-6556	VicePresident@pasaz.org
Secretary	Kevin Witts		Secretary@pasaz.org
Event Manager	Terri Finch	602-561-5398	Events@pasaz.org
Treasurer	Eric Steinberg		Treasurer@pasaz.org
Newsletter Editor	Don K. Boyd		Editor@pasaz.org
PAS Host	Rodney Fong		
Librarian	Rod Sutter		Librarian@pasaz.org
Member at Large	Jenny Weitz	602-787-6818	jennifer.weitz@paradisevalley.edu
Member at Large/Equipment Manager	Bruce Wurst	602-971-3555	PastPresident@pasaz.org
Webmaster	Chris Johnson		Webmaster@pasaz.org
Phoenix Astronomical Society	3039 W Peoria Ave	#102-188	Phoenix AZ 85029

Upcoming PAS Events of May, June, July & August

By Terri Finch, Event Manager

Check out these and other fun events on the PAS Calendar: <http://www.pasaz.org/forums/calendar.php>. RSVP where requested to Events@pasaz.org. On the PAS Calendar, "Private" means it is for PAS members only. This list is accurate as of the posting of this newsletter to the website. More events may be added to the PAS Calendar.

Apr 29: Astronomy Day - Everyone welcome in Heritage Square by the Arizona Science Center in Phoenix from 10am to 9pm. Solar viewing, meteorites, evening viewing and more. Highlights: Moon, Jupiter, and Orion Nebula. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2150&day=2017-429&c=1> RSVP requested.

May

May 2: School Solar Event (Private)

May 4: Huge public star party at PVCC Black Mountain Campus, 60th Street and Carefree Hwy from 8pm to 9:30pm. Set up is 7pm for telescopes. Everyone welcome. RSVP is requested with Terri - events@pasaz.org. This event is weather permitting. When you RSVP by email, please include the number in your party. We usually provide 10-14 scopes for your viewing pleasure. Please do not touch the telescopes. Highlights: Jupiter, Orion Nebula, and Mars. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2044&day=2017-54&c=1>

May 6: Public star party at Bookmans for a sidewalk astronomy event. Event is from 7pm to 10pm and RSVP is requested.

Come view through our telescopes to see the Moon, Jupiter and more. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2235&day=2017-56&c=1>

May 7:

<http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2021&day=2017-57&c=1>

May 11: Dinner prior to the PAS Meeting will be at Chili's at 4:30pm. Come meet the guest speaker - everyone is welcome. RSVP is required by the day before at this link: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2311&day=2017-511&c=1>

May 11: PAS Meeting at PVCC in Room LS 203. Come enjoy a presentation by Harrison Smith. Bring a snack to share. Bottled water provided by PAS snack fund. Everyone welcome. Doors open 7pm. Meeting begins 7:30pm. Here's the link for more details about this event: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2010&day=2017-511&c=1>

May 12, 13, 14: PAS will be at Arcosanti each night from 8pm to midnight. Arcosanti charges for attendance.

May 20: Birthday Party for Mike + Private Dark Sky Star Party. Potluck is at 6pm. PAS Members and their immediate families are invited. More details at this link: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2239&day=2017-520&c=1>

May 25, 26, 27, 28: PAS May be at Comicon during day and evening of this event. This is still in the setting up phase. More details will be on the PAS website.

June 3: Public star party at Bookmans for a sidewalk astronomy event. Event is from 7:30pm to 10pm and RSVP is requested. Come view through our telescopes to see the Moon, Jupiter and more. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2240&day=2017-63&c=1>

June

June 8: Private Party in downtown Phoenix.

June 11: Free telescope workshop at Bookmans, 19th Ave and Northern in Phoenix - 3:30pm to 5:30pm. RSVP is required with Terri - events@pasaz.org. When you RSVP, email the make and model number of the telescope you need assistance with. We also assist with suggestions and advice on what telescope to purchase to match your needs. We have no telescopes for sale at this event. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2022&day=2017-611&c=1>

July

July 1, 2, 3, 4: PAS will be at Leprecon, held this year at the Mesa Mission Palms from 10am to 10pm Saturday, Sunday, Monday and Tuesday. On Tuesday it may end at 6pm. PAS will be indoors Saturday, Sunday, Monday and Tuesday, and will do star parties Saturday, Sunday and

Monday nights. More details can be found on the PAS website.

July 8: Public star party at Bookmans for a sidewalk astronomy event. Event is from 8pm to 10pm and RSVP is requested. Come view through our telescopes to see the Moon, Jupiter and more. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2241&day=2017-7-8&c=1>

July 9: Free telescope workshop at Bookmans, 19th Ave and Northern in Phoenix - 3:30pm to 5:30pm. RSVP is required with Terri - events@pasaz.org. When you RSVP, email the make and model number of the telescope you need assistance with. We also assist with suggestions and advice on what telescope to purchase to

match your needs. We have no telescopes for sale at this event. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2023&day=2017-7-9&c=1>

Aug

Aug 5: Public star party at Bookmans for a sidewalk astronomy event. Event is from 7:30pm to 10pm and RSVP is requested. Come view through our telescopes to see the Moon, Jupiter and more. More details:

<http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2242&day=2017-8-5&c=1>

Aug 6: Free telescope workshop at Bookmans, 19th Ave and Northern in

Phoenix - 3:30pm to 5:30pm. RSVP is required with Terri - events@pasaz.org. When you RSVP, email the make and model number of the telescope you need assistance with. We also assist with suggestions and advice on what telescope to purchase to match your needs. We have no telescopes for sale at this event. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2024&day=2017-8-6&c=1>

Aug 18: Private Star Party in Scottsdale.

Aug 21: Total Solar Eclipse, totality is not visible from Phoenix, but a number of PAS Members are making a field trip to Oregon, Washington and other states north of Arizona to see it.

Alta E Butler School Feb 24

By Kevin Witts, PAS Secretary

The star party started at 5:00 and ran until 7:30. Unfortunately, the sky wasn't dark until 7:00. Two members with scopes were in attendance and one was able to show the sun as it set and a spectacular view of Venus in a great crescent shape. The other member pointed his scope to the buildings downtown and was able to discuss how telescopes work. Finally at around 7:00, we captured a great view of the Orion nebula. PAS also supplied some great displays of meteorites and informa-

tion about the Moon and Mars. Approximately 100 kids were in attendance, many with their families.

Terri, Event Manager adds: PAS has done several star parties for this school. Alta E Butler and Moya Elementary are neighboring schools and they share the participation of PAS at their locations. Many thanks to Sara Pearson for having PAS at her school again this year. Attending from PAS for this event with telescopes were Pete Turner and Kevin Witts, while Su-

zanne Morrison and Mike Marron provide interactive educational displays.

I later asked Sara how the event went at the school and she replied with "Terri, it was a great event! We did have a great turn-out. I am not sure how many families came, maybe 200-300 attendees or so. I know that the rooms were packed throughout the event. Kevin was great. Thanks for everything."

Wilson Star Party Feb 24

By President Sam Insana

The Wilson's had a beautiful house in a dark area of Desert Mountain in North Scottsdale just east of Carefree. There were 8 adults celebrating Chris Wilson's 60th birthday and his family "purchased" a star in Pisces for Chris. I showed everyone the star using my setting circles once they gave me the right ascension and declination coordinates and Chris was delighted. They

grilled delicious filet mignon and gave some to us before the star party started. Venus was so bright that it actually made it difficult to see the Milky Way. We showed about 16 objects in two hours. Don and Sam showed them constellations with green laser pointers. At the end Sam showed everyone 14 meteorites and 2 tekites. Unfortunately someone accidentally

dropped the Pallasite on spanish tile and that was it. Sam gave Chris a small meteorite as a birthday gift. They wanted PAS cards so they could give them to people they know since everyone had such a good time and their friends live in similar dark sky areas.

Imagine School - After School Event Mar 8

By Terri, Event Manager

Nicole Johnson contacted PAS to have a member come to her school and provide an after school experience having to do with Astronomy. My first choice was to send Mike with his Meteorites because even if they aren't interested in meteorites, Mike can jump into any topic and answer any question having to do with astronomy / physics, etc. So, I set up this event with Mike in mind and sent him over to Nicole to do the event on March 8th. It was to be a

half hour event.

Mike said it went well. The kids loved the meteorites and he was having so much fun answering all their questions. Ofelia joined him in doing this event to assist in watching the meteorites since it was to be about 20 kids gathered around his table all at one time.

Nicole writes: I wanted to send you a quick email about Mike's visit to our school a couple of weeks ago. The kids really

enjoyed him and all of the great things he talked about and showed them! My teachers felt that he did a great job of talking with the kids age appropriately so that they understood what he was trying to convey and said that the event went extremely well! We will definitely keep you guys in mind for future events! Thank you so much! Nicole Johnson, Site Director & Field Coach

PRESIDENT'S CORNER

By President Sam Insana



PAS President Sam Insana. Photo by Terri

With important PAS elections coming up, PAS members may wonder what the President does for this club. The following will be an explanation of what I have been doing since I took office in Sept 2015.

Be responsible for all PAS activities

Supervise all the PAS officers and managers

Set up each monthly general meeting: obtain a speaker, verify availability of the room with password and user ID for the internet, set up an agenda and send it to the Secretary to put in final, preside over the meeting, greet new visitors and welcome new PAS members

Interview our monthly speakers for background material and sometimes have dinner with them before our meetings

Set up Meetings of the Minds which are PAS business meetings held every few months: verify the room availability, set up the agenda and send it to the Secretary to put in final, preside over the meeting

Try to resolve small disputes among PAS members

Send big issues for resolution to the PAS Board of Directors

Update the PAS bylaws with help of PAS Board of Directors and vote of PAS members, such as creating the Secretary position, expanding duties of the President, appointing Terri Events Manager, etc.

Handle interviews from magazines, newspapers, etc.. about PAS

Return emails, phone calls and letters from the public and PAS members wanting information about PAS.

Along with Leah, respond to the public's inquiries about astronomy.

Examine website for out of date material and try to get it updated, which was done with regard to People of PAS, News and Events, Contacts, etc...

Review the finalized PAS Newsletter and let the editor know of major mistakes (which seldom happens) so he could correct them ASAP

Suggest and encourage new citizen science projects for PAS members, such as International Meteor Organization studies with help of Alex, occultation timing studies with expert guidance of Ted Blank and Paul Maley, spectroscopy studies with leadership of Bill Powell and expertise of Chet Schuler

Set up and encourage field trips to planetariums and astronomy museums at ASU with help of Paul Facuna, and encourage attendance at Ron Walker's Star Barn Planetarium in Cave Creek

Set up field trips to Observatories like Kitt Peak and Mount Graham with a lot of help from Kevin Witts and Howard Moneta

When PAS members are ill, obtain get well cards and get signatures from members and send them to the ill members. When PAS members pass away help write an obituary for the newspaper and for our PAS newsletter

As President, lead the club by being very active in all we do: telescope workshops to help visitors with telescope problems and offer to remain in contact with them, do star parties, socials, meetings, write reviews and take photos for PAS newsletter, play in the PAS music jam, participate in spectroscopy, occultations, meteor studies and more.

Write monthly President's Corner articles for PAS Newsletter

Attend All Arizona Star Party and meet with other Arizona Astronomy clubs to see what they are doing and let them know about PAS activities

Take Bortle readings at dozens of sites around the Valley and Arizona, put them in a PAS Newsletter President's Corner article, and soon put them on our PAS website

Put together a Telescope Favorite Objects list for the Observing section of our PAS website with the help of PAS members

Put together a Binocular Favorite Objects list for the Observing section of our PAS Website with the help of PAS members

Set up our first PAS binocular star party with the help of Howard and Alex

Have begun a Mentoring Program so new members can team up with veteran

members for advice and training

Make sure PAS participates in Astronomy Day twice a year

Trying to get our club to increase the diversity of our membership. Set up Astronomy Day in South Phoenix with Terri's help and have invited the South Phoenix community to attend with Kevin's help. Contacted some Astronomy teachers in racially mixed Phoenix schools to try to get more minority interest in Astronomy and PAS

Introduced a goal at a Meeting of the Minds to help get PAS newsletter articles shortened so more people would read them (sorry about this one being so long)

Introduced a goal at a Meeting of the Minds to have less emails going to all PAS members when they are repetitive and not of interest to all

Helped get PAS members tee shirts, hats, hoodies and other apparel with our logo

Perform many detailed Weather Analyses for all our PAS outdoor activities

Research and report to PAS members about the 2017 total solar eclipse, with detailed weather analyses along the path of totality. Alex and I have worked on this for over 2 years.

When PVCC was closed on a meeting night, invited attendees to a coffee shop to discuss PAS issues and purchased drink and dessert for people.

Attend Flagstaff Festival of Science each year and promote PAS which helps get outstanding speakers from NAU, Lowell Observatory, and USGS.

Meet with school officials and visit campuses, and meet with private businesses to scout out locations, prior to some of the star parties to help Terri.

Agree to be the RSVP on many star parties to help Terri and the PAS members attending and the school involved.

Deposit money to PAS bank account when I receive money from new members

Help the club run as smoothly as possible

I have kept myself available for PAS presidential duties and astronomy activities up to 7 days a week and up to 16 hours a day. I have averaged about 10 hours a week on PAS presidential duties and over 10

hours a week on PAS astronomy activities. Having been a member of PAS for 31 years I can say that I probably worked as hard as any other PAS President I ever knew. I was only able to accomplish things because of our many outstanding members who do so much for PAS. Also, I could count on

many of our members to assume duties whenever I had to delegate tasks. A very special thanks to Eric as Treasurer, Kevin as Secretary, Howard and Alex as Vice Presidents, Don as NL Editor, Rodney as Host, Jenny as our Director at Large and PVCC liaison, Bruce for his Director at

Large, Ora and Eric for helping to edit the NL, Chris Johnson for being Webmaster, Christine for her work on the Star Tours rotation system, Terri for her work as Event Manager and Mike for his many years of Meteorite work along with letting us use his home and dark skies in Carefree.

Desert Sage School Feb 2

By Terri, Event Manager

Attending this event were Mike Maron and Ofelia with his meteorite display and Kevin Witts who brought his "Space Exploration" display. They were set up inside the school cafeteria and they were a great hit. This event was from 5:00pm to 7:00pm. Many thanks to Desert Sage and school contact Kerry for having PAS at their event.

Kerry writes: "Both guys (and Ofelia) were great, as usual!! We had our largest attendance and heard many positive things about the meteors and space. Thanks so much for your participation!! We look forward to having them back next year, if possible!!"



Mike and Ofelia are seen with at Mike's Meteorite table setting up to do this event at Desert Sage School. Photo taken by Kevin Witts.



This is Kevin's "Space Exploration" display. It is very extensive, full of fun facts, examples, size relations and more. Photo by Kevin.

Pardes School Feb 9

By Mark Johnston

On Feb 9th, Eric Steinberg and I supported "STEAM Night" at Pardes Jewish Day School in Scottsdale. There were numerous science-themed events in the evening including telescope viewing. Eric had his 22" and I brought my 5.5" refractor. We had about 75-80 K-8 students and luckily the clouds that persisted most of the day disappeared to a great extent once it got dark. We were in south Scottsdale so the ambient light and nearby buildings limited the selection of objects.

We showed Venus, Mars, Uranus, the Pleiades, Gamma Andromeda, and the Trapezium; I pointed out some constellations and asterisms with my green laser. As usual the laser was as much of a hit with the younger kids as the telescopes were. It was a challenge keeping the youngest ones from grabbing the eyepiece sometimes regardless of what instructions we provided! We wrapped up around 8:30 and everyone thought it was a successful event.



Pardes School Star Party with Mark's white scope on the left and Eric's black scope on the right. Photo provided by Mark Johnston

Sonoran Trails Feb 16

By Kevin Witts, PAS Secretary

The school was featuring a STEM night that included science experiments and a bank of microscopes with interesting objects. PAS supplied 3 telescopes and a display with items geared towards space exploration. We had approximately 200 kids visit the scopes and display and they were required to ask questions about the scopes (or display) and then have an extra-

credit sheet stamped once the interaction was complete. There was a great transit of the ISS just after dark as well. The scopes were able to show Sirius, the Orion Nebula and Venus. The 1/125 scale Saturn V rocket was also a favorite.

Terri, Event Manager adds: Attending this event from PAS were Kevin Witts doing a display of "Space Exploration,"

Roger Anzini, Don Boyd and Rick Cunningham who brought their telescopes. Many thanks to Ashley Fauss for having PAS at this event.

I asked Ashley how the event went that night and she replied with "It went smashingly! Thank you SO much! We will probably book you for next year!"

May 11th Meeting

Continued from page 1

drink was very generous and much appreciated by the over 50 friends and family.

PAS will have our own tribute to Earl

at our next meeting on May 11th following Ron Walker's presentation and before the Election of Officers. Anyone wishing to

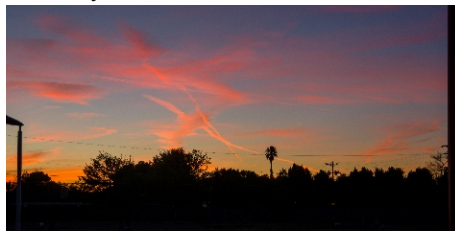
share their feelings about Earl or learn more about this fine man should take part.

Biltmore Prep Star Party Feb 3

By Sam Insana, President of PAS

Sam writes: PAS provided a star party Friday night at the Biltmore Prep Academy. It had been cancelled 2 weeks earlier because of rain. For this date it again looked very cloudy, but our weather analysis showed the clouds would probably thin out one hour before the star party so that the Moon and Venus could be shown. Thula, our school contact, was willing to take a chance and it paid off. Mark Johnston, Sam Insana, Roger Anzini, Don Boyd and Pete Turner brought telescopes, and Mike Marron had his meteorites. Ofelia Waters attended to assist Mike. As **Mark Johnston** said: "I had a lot of fun showing objects to the kids and adults tonight. We looked at the Moon, Mars, Gamma Andromeda, Castor, and the Trapezium. A lot of people were really impressed with the craters and mountains of the Moon. They also liked the colorful stars of Gamma Andromeda and the beauty of the heart of the Orion Nebula."

Don said "I tried out my new coma corrector and it made a huge difference. The stars looked like pinpoints to the edge of the field. Venus had a clear cut crescent and the Pleiades and Beehive open clusters were beautiful. The Double Cluster in Perseus couldn't be seen because of cloud cover."



A beautiful sunset is seen by the Telescope Team at this school as the kids gather to view through the telescopes. Photo by Don.



Before it got too dark, Mark grabbed this image of one of the school attendees viewing through Mark's scope.



A family enjoys a view through Don's telescope. Photo by Don.



Taken by 10 year old Sophia Long, daughter of Thula, school contact, with Pete's 12 inch DOB at the Feb 3rd Biltmore Prep star party.



Mike and Ofelia at Biltmore Prep with a crowd and his meteorites. Photo by Sam Insana.



Sophia Long with her mother, brother, Pete by Pete's scope. Taken by Sam.

The Search for Life on Other Worlds

PAS Meeting of Apr 6

By Terri, Event Manager

This meeting's highlight was an hour-long presentation by Harrison Smith at ASU Tempe. Mr. Smith provided a lot of information on how scientists at ASU Tempe are looking at the data to try to figure out if there is life on planets around other stars. He talked about many of the NASA missions to outer space, past, present and future and also went into depth about the newly discovered TRAPPIST-1 System that was recently announced in the news. He shared that some scientists want to send missions to Saturn's moons, Enceladus (for a fly by through its plumes), and Titan to study its atmosphere. At the conclusion of Harrison's talk, President Sam provided a few interesting announcement items:

Sam welcomed back Chet Schuler who just went through hip surgery but was able to attend with his wife Jewel.

Sam also informed the group that our newsletter editor, Don, has a significant vision issue in one eye. We wish him speedy healing along with Rick Cunningham who is also about to undergo knee surgery.

The next topic was an upcoming occultation and what has to be done to discover the size and shape of the asteroid. The occultation would occur on Tuesday morning Apr 11th at 3am and be monitored by the occultation team of Paul Facuna, Sam Insana, Ted Blank and Paul Maley. If you are interested in working with this team and learning how to record occultations, talk to one of these SIG members.

Then Sam turned the floor over to Bill Powell who is in charge of the Spectroscopy SIG. Bill went over some items from his meeting of Tuesday Apr 4 and announced the upcoming meeting plans. There are currently 5 PAS Members involved with this

SIG.

Next Sam talked about the PAS Brochure that is being designed by Terri Finch.

At that point, Sam did a quick review with input from several attendees, about the April 1st Marston Exploration Theater field trip attended by 10 PAS members. The 3D presentation is really dramatic and I look forward to the next 3 shows at the Marston Theater.

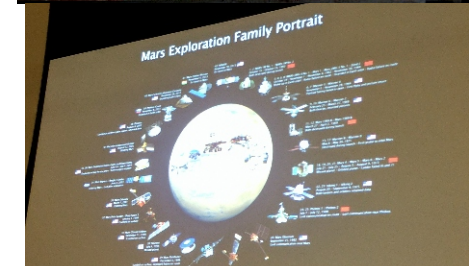
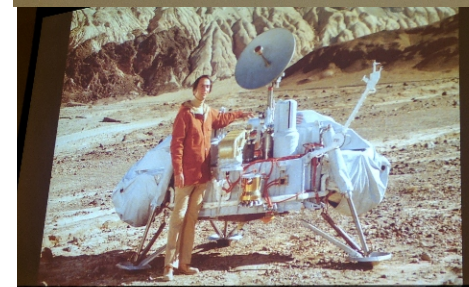
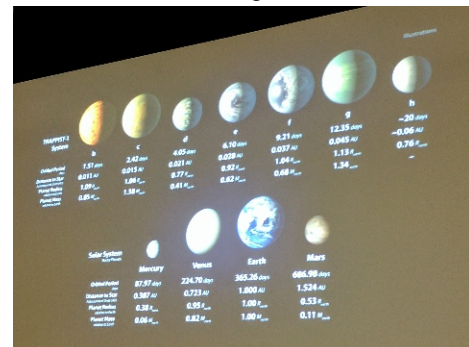
The last announcement Sam made was about having reviews at the September PAS Meeting provided by anyone who attended the August 21 Solar Eclipse. This can be with, or without photos, but you must let Sam know if you have something to share, and how long it will take to share it with the group, so he can add you to the September PAS Meeting schedule.

Then Terri, went over the upcoming events for April and held the Raffle. Peter Turner won the Raffle this month.

The meeting ended about 9:30pm; we had 32 attendees total. Harrison brought his fiancée Liz Dyer and we had several return members and 2 guests join us. There were 32 attendees total. Thank you Harrison for a spectacular presentation!

Thanks also to those who brought snacks to share, and thank to Bruce for bringing a case of water. Ten PAS Mem-

bers had dinner at Chilli's at 7th Street and Bell Rd at 4:30pm prior to the meeting. Unfortunately Harrison couldn't make the dinner, We look forward to next month's dinner at Chili's and meeting with Ron Walker as our Guest Speaker.



Harrison Smith sharing his presentation on "Life on Other Planets" at the April PAS Meeting. Photo by Terri.

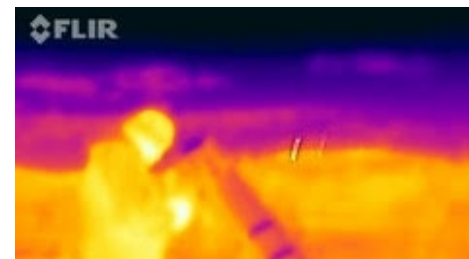
PAS Messier Marathon Mar 25

By President Sam Insana

For the Messier Marathon on March 25th, PAS invited members to use Mike's dark skies to try to see the 110 objects in one night. While several members initially signed up, only 2 members, Don and I showed up with telescopes. I believe Alex had the greatest number, just using his binoculars. I searched for and found Comet 41P/TKG in Ursa Major while Don was looking at Jupiter and other objects. It was

an enjoyable and relaxing event with Mike, Ophelia (who made a delicious cake during the night), Rodney and Joe.

I tried some astrophotography with a camera my son Frank gave me for Christmas, and actually got colors to show up in the Orion Nebula, but I had some focusing issues I need to figure out. To end the evening, we also watched a 1947 Dick Tracy movie.



This is Sam at his telescope, Photo was taken with a FLIR thermal imaging attachment on an iPhone. Photo by Alex Vrenios.

Las Noches de Las Luminarias 2016 Nov 25, 26

Photos and Reviews provided by the Lumi Telescope Team

Terri Finch, Event Manager writes: The Desert Botanical Garden's Luminaria event for 2016 was 21 nights of scopes and presenters. The dates for this year's event were Nov 25, 26, Dec 2, 3, 4, 9, 10, 11, 16, 17, 18, 20, 21, 22, 23, 26, 27, 28, 29, 30 and 31. The plan was different than last year's event. This year we had 4 telescopes and 1 presenter every night we had mostly clear skies. For nights where it was just too cloudy for a telescope to see anything, we had just 2 presenters. And for nights where the clouds weren't as thick we had 2 presenters and then 3 telescopes showing the brighter objects in the night sky. And if we were lucky, as we were for the weekend of Dec 2, as long as we weren't covered in thick clouds, we had 2 presenters and 2 scopes on the Moon. It was a fun, exhausting event! We also were more spread out this year with 2 or 3 telescopes up on Space Mountain, aka Pratt Ramada or Sonoran Desert Nature Loop Trail, and 2 scopes were on the PPSD which is the Plants and People of the Sonoran Desert Trail. If you took a walk up Space Mountain to the right, you'd come across a telescope at the Top of the Hill and then as you head down the other side, you'd find another scope or two in the Overlook. If it was too cloudy, the Cloudy Presenter would be found in the Pratt Ramada. Then, if you took a walk along the PPSD Trail, you would find, along the left side of the "Y" in the trail, in the Ramada along that trail, a Presenter, and a little further down you would find 1 or 2 scopes at the area we were calling the PPSD Power Box.

The Lumi Team members for this year's event were William Finch with his 10" scope, Terri Finch with her 8" scope, Bruce Wurst with his 12" scope, Don Boyd with his 8" Scope, Christine Mintzmyer with her 10" scope, Kevin Witts with an 8" scope and he was also a Presenter of various displays, Mark Johnston with his 5.5" refractor, Mike Marron with his meteorite display as a Presenter, Rick Cunningham with his 12" scope, Sam Insana with his 8" scope, Pete Turner with his new 12" scope, and Suzanne Morrison with her Meteorite Display as a Presenter. We also had several Star Tour Members be Runners. What does a Runner do? The Runner's job is to go between each Star Tour Member and fill in for them as they take a 20 minute break which could include walking to the break room for a hot drink and cookies, or using

the bathroom, or just stretching their legs and resting their voice that has been repeating the same info all night long for 4 hours straight to every DBG Patron. I was very glad to have a Runner available to give me a break each night. Some nights I needed a Runner, more than other nights. So, every night, having a Runner, was definitely appreciated.

Friday, Nov 25:

Terri writes: We had Sam at the Top of the Hill location on Space Mountain and Don was at the Overlook. William and Terri were to be found at the PPSD Power Box location. We had Kevin at the PPSD Ramada and Bruce was the Main Runner of both areas that night. The skies were not great seeing but there weren't any clouds. It was chilly by 1 hour before pack up time (8:30pm). It was a great night. The event was sold out (2400 patrons). Bruce and I did the event differently this year. I had my scope at the event, and I worked the scope for the first hour, and then Bruce, who was Runner for all the scopes on this night, came by and gave me an hour + break, in which I filled in for Sam, while he took a 20 minute break. Don declined a break when I checked in with him, so I went back to my scope and had Bruce check in with Sam and Don, who then both needed a break at about the same time. This extra long break was better on the legs and made the event that much more fun for me.

Sam writes: We had the first lumi event at DBG for the holiday season. Don, William, Terri and Sam used their telescopes to show, Venus, Mars, the Pleiades, Andromeda Galaxy, Gamma Andromeda double star, Albireo double star, Ring Nebula, and Perseus double cluster. The night was beautiful, no wind, no clouds, no rain, and perfect temperature. Everyone loved looking through the scopes. Bruce was the official runner although Terri helped out with some of that also. I did a Bortle reading. It was 7.1 compared to 6.6 last year. I think the flood lights on space mountain didn't help the situation. Therefore, brighter objects like the moon, venus, double stars, open clusters, will fair better with the crowd than fainter objects like galaxies, and nebula. Hearing the music in the background was a treat along with the hot chocolate, coffee and delicious cookies DBG provided.

Saturday, Nov 26:

Terri writes: It was cloudy. The clouds were so super thick we cancelled the 4 scopes and went with 2 presenters. Kevin Witts and Suzanne Morrison set up at the Space Mountain Ramada while Mike Marron was set up at the Ramada along PPSD with William & Terri as his Team Runners. It was chillier than the night before, and damp due to the incoming storm, due to hit Phoenix on Sunday. The event was sold out (2400 patrons). We had one mishap - Pete didn't get the notice that all telescopes were canceled for the night.

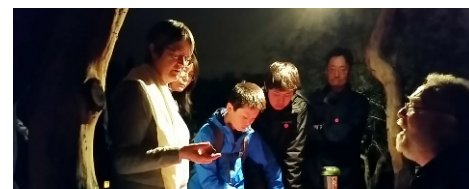
More reviews of this event will be in future issues of this newsletter.



Sam was at the 2016 Desert Botanical Gardens Luminaria event. He is seen here with his telescope. Photo taken by Don on Nov 25.



Mike setting up his meteorite collection in the PPSD Ramada for sharing with the Patrons of DBG. Terri checking out Mike's display. Photo



Nov 26: Mike Marron sharing his meteorites with the Patrons of DBG who were attending the Luminaria event on this night. Photo by Bruce.



On Nov 26, Suzanne Morrison was set up with her meteorites at DBG. She had an interested crowd all night. Photo taken by Kevin Witts.

Moon Valley High School Feb 22

By President Sam Insana

Moon Valley High School asked PAS to put on a star party Feb. 22nd as part of their STEAM night. Meteorite Mike Marron displayed his stardust while Don Boyd and Sam Insana explained astronomy and telescopes to the over 200 students, faculty and parents who couldn't believe it was so cloudy over. That morning, Sam explained to the school contact that it would be cloudy but the school insisted the scopes be there in case the clouds cleared and Venus could be shown. I said to Don at the event that it looked like Venus would appear right after the event ended. Sure enough, the event was over at 8 pm, we were told to pack up, which we did and then Venus appeared. I saw that about 20 students, parents and faculty were still hanging around so I set my telescope back up and showed them Venus. They were very appreciative of the extra effort and enjoyed the view of a 20% crescent of Venus.



Mike, doing his usual and stealing the crowd at this school. Photo by Sam.



Don Boyd teaching Moon Valley HS students about Telescopes. Photo by Sam Insana.



Sunset over Moon Valley HS. Photo by Sam.

Black mountain Campus Star Party Feb 23

By President Sam Insana

PAS had 8 telescopes at Black Mountain Campus of PVCC. There were about 50 members of the public who attended. Leah Sapir writes "The objects I showed in my 6 inch Dob were Venus as a crescent, Orion nebula, and Andromeda galaxy. I also did a few sky tours of the constellations with my laser pointer, and loaned my binoculars to one of the attendees to look at

the Pleiades."

Mark Johnston, Mike Cawley, Earl DeLong, Sam (that's me), Eric Steinberg, George Zukauckas, and Bill Powell also brought telescopes. At least a dozen other deep sky objects were shown.

Mike Marron had his meteorite collection at the entrance. We also signed up a

new PAS member, Pamela, who came by to observe. She owns an 8 inch Dob and can't wait to join us at future dark sky observing sessions.

Paul Facuna helped get the cars in and out of the observing area. It was a clear night, no clouds, wind or rain. At the end as Paul and I were leaving, two javelina walked by the area!!

PAS Yearly Music Jam Mar 4

By Terri, Event Manager

This year's turnout for the music jam was solid, though sadly, Ed Wurst and Bette Wurst were unable to make it. Attending this event were William and Terri Finch, Bruce Wurst, Sam Insana, Eric Steinberg, Don Boyd, Mike Marron, Ofelia Waters, Ron and Judy Walker and Paul Facuna. With 14 in attendance, we started the potluck (pizza, chicken and more) at 5:30pm.

We set up for the Jam and played from 7pm until 10pm. Playing this year were

Don - keyboard and vocals, Terri - keyboard and flute, Bruce - banjo, Sam - trumpet, keyboard and bass guitar, Eric - bass guitar and amp plus his Moeck alto recorder. Mike was the fantastic Host of the party, and Ron made a recording that he gave a copy of to every musician who attended. Thank you Ron, that was wonderful of you. The additional attendees formed the rhythm section using the maracas, tambourines and other percussion instruments provided by

Sam, to help the group keep the rhythm.

Once the decision was made to stop playing, the party came to an end. Several of us stuck around for a while, helped pack up, and then chatted about various topics before leaving for the evening. Many thanks to Mike for hosting this event at his home in Carefree. We look forward to next year's PAS Music Jam which we hope to hold in February or March of 2018. See you there!!!

Lone Mountain School Mar 17

By Terri, Event Manager

Colleen Neiman, our contact at Lone Mountain, asked for 3 presenters to come to her school for Mar 17th. Mike showed his meteorites and we also had Kevin Witts and Suzanne Morrison there as well with dis-

plays. The event was from 4:30 to 7pm indoors.

Colleen writes: I thought this event went really well. I did not have a chance to

talk to the team much afterward, though.

Kevin writes: Suzanne presented "Touring the Solar System" and I shared a presentation on "Things in the Night Sky"

PVCC Star Party Mar 6

By Terri, Event Manager

This was a very interesting and fun event. Lori Praus, who is the new adjunct at PVCC asked for a star party provided by PAS for her class. Jenny Weitz and I set up this event for Lori. The idea was to have telescopes and other activities for her students to enjoy from 7:15pm to about 9pm. The weather was super cooperative and the event was a great success.

Attending from PAS we had: Mark with his 5.5" scope, Sam with his 8" scope, Mike brought his meteorites and set up next to a PAS table of handouts up on the walkway on the way to G-147, Roger brought his 16" scope, Paul helped with the event, William & Terri helped as well along with Howard and his 8", Don attended and Rodney attended to help out. With that many scopes, I was very glad to have Rodney, Don and Paul there to help load and unload the scopes for this event.

We set up along the sidewalk leading from G-147 down to the Telescope Dome on campus. Some vehicles drove in, onto the campus walkway to do the unload, while others were able to walk their telescopes into the set up area. Lori had had her students bring snacks for everyone to enjoy and she provided a case of water, which was very much needed.

Extra activities included a Sky Tour by Roger and Terri, pointing out some additional items in the night sky by Terri and William, and some additional discussions in G-147 with the students above various astronomy topics.

Mike, like usual, was a great hit and many students stopped by to talk to him and Ofelia at his Meteorite Table. The handouts about PAS were on a table near Mike, so he could have the students take any handouts they wished to have.

Many thanks to Jenny and Lori for having PAS at this fun event. And thanks to Lori for having the students provide the snacks. The night went very smoothly. There were lines at the telescopes, but most students went to the shorter lines so they could visit more telescopes during the event. Orion nebula seemed to be a favorite among the students. I wish to thank my Telescope Team for providing a fun event for everyone who attended. We hope to do more observing events for Lori and Jenny in the near future.

Lori writes: Hello All, A hearty thanks to all of you for coming to PVCC and putting on such a nice star party. The students had a wonderful time! Having volun-

teered for star parties myself, I know how much work it is to pack up your equipment and haul it around, unpack set up, repack, etc.!!! It was so great of you all. THANK YOU!!! Peace and Chocolate, Lori



Sam & Paul set up Sam's scope on the Observing Deck at PVCC Main Campus for a star party for the Astronomy Students in Lori's class. Photo by Don Boyd.



Roger sets up his "Cannon" scope (and is headless in this photo) and Mark has his 5.5" Refractor at this event. The event was a great success and fun for everyone. Photo by Don.

South Mountain STEAM Event Mar 4

By President Sam Insana

On March 4, 2017, I attended the STEAM event at South Mountain Community College. PAS was invited to provide a solar telescope so I provided my PST. The event was 4 hours long and had dozens of booths, demonstrations, music, food, art-work and activities. There were about 300 attendees. I showed 2 solar flares, which the over 150 viewers enjoyed. Because of the solar minimum there were no sunspots, but the people really enjoyed looking directly at the sun with pairs of solar eye-glasses I brought with me. All the other demonstrators and booths were in the shade but my 4 hours was in the sun on cement; near the end I became really thirsty having finished all my water. A teacher was very nice and watched my equipment while I purchased an Italian ice for me and another for the teacher. It was a fun event. I gave out dozens of cards to teachers, Parks and Recreation people and students who would like to see a night star party by PAS.



Sam providing the SMHS Band members with a safe view of the Sun through his PST. Photo provided by the Teacher at SMHS, Cassandra.



Sam talks about what is being seen on the surface of the Sun through his scope. Photo provided by Cassandra.



The Students of South Mountain HS gather during the Solar Event provided to this school by Sam Insana and his PST. It was a hot day but the band members enjoyed the view. Photo taken by Sam.



Two of the students of SMHS stood by Sam's PST and viewed the Sun. Photo by Sam.



NOAA's Joint Polar Satellite System (JPSS) to monitor Earth as never before

By Ethan Siegel

Later this year, an ambitious new Earth-monitoring satellite will launch into a polar orbit around our planet. The new satellite—called JPSS-1—is a collaboration between NASA and NOAA. It is part of a mission called the Joint Polar Satellite System, or JPSS.

At a destination altitude of only 824 km, it will complete an orbit around Earth in just 101 minutes, collecting extraordinarily high-resolution imagery of our surface, oceans and atmosphere. It will obtain full-planet coverage every 12 hours using five separate, independent instruments. This approach enables near-continuous monitoring of a huge variety of weather and climate phenomena.

JPSS-1 will improve the prediction of severe weather events and will help advance early warning systems. It will also be indispensable for long-term climate monitoring, as it will track global rainfall, drought conditions and ocean properties.

The five independent instruments on board are the main assets of this mission:

The Cross-track Infrared Sounder (CrIS) will detail the atmosphere's 3D structure, measuring water vapor and temperature in over 1,000 infrared spectral channels. It will enable accurate weather forecasting up to seven days in advance of any major weather events.

The Advanced Technology Microwave Sounder (ATMS) adds 22 microwave channels to CrIS's measurements, improving temperature and moisture readings.

Taking visible and infrared images of Earth's surface at 750 meter resolution, the Visible Infrared Imaging Radiometer Suite (VIIRS) instrument will enable monitoring of weather patterns, fires, sea temperatures, light pollution, and ocean color observations at unprecedented resolutions.

The Ozone Mapping and Profiler Suite (OMPS) will measure how ozone concen-

tration varies with altitude and in time over every location on Earth's surface. This can help us understand how UV light penetrates the various layers of Earth's atmosphere.

The Clouds and the Earth's Radiant System (CERES) instrument will quantify the effect of clouds on Earth's energy balance, measuring solar reflectance and Earth's radiance. It will greatly reduce one of the largest sources of uncertainty in climate modeling.

The information from this satellite will be important for emergency responders, airline pilots, cargo ships, farmers and coastal residents, and many others. Long and short term weather monitoring will be greatly enhanced by JPSS-1 and the rest of the upcoming satellites in the JPSS system.

Want to teach kids about polar and geostationary orbits? Go to the NASA Space

Place:

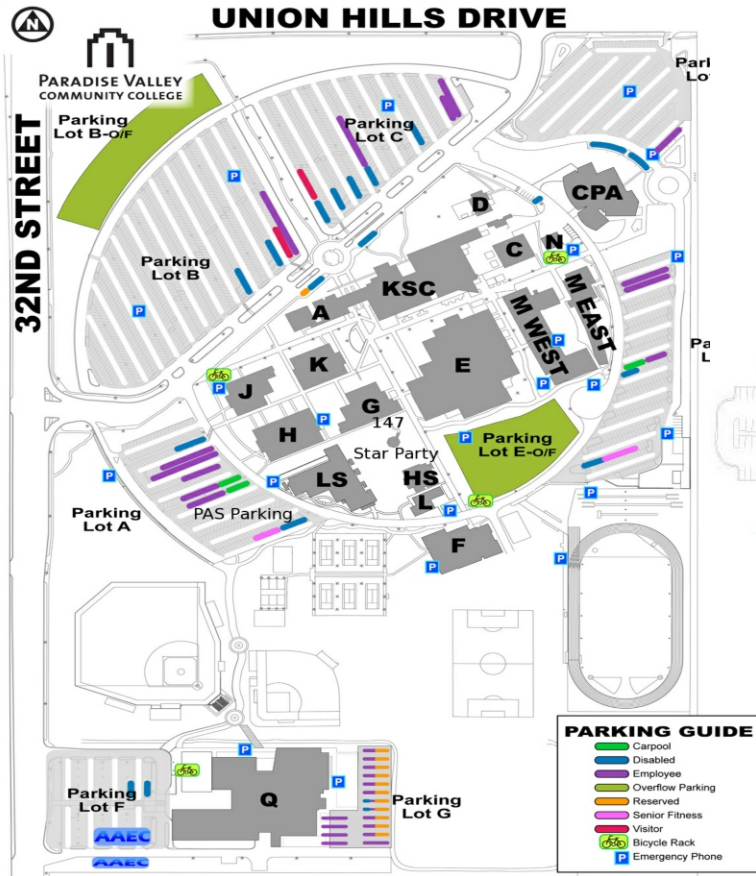
<https://spaceplace.nasa.gov/geo-orbits/>



Ball and Raytheon technicians integrate the VIIRS Optical and Electrical Modules onto the JPSS-1 spacecraft in 2015. The spacecraft will be ready for launch later this year. Image Credit: Ball Aerospace & Technologies Corp.

Map of PVCC Main Location

18401 N. 32nd Street | Phoenix, AZ 85032



Map of PVCC Black Mountain

34250 N. 60th Street | Scottsdale, AZ 85266



2017 PAS GUEST SPEAKER LINE-UP

By Terri Finch, Event Manager, Events@pasaz.org

PAS Meetings are held on Thursdays in Room LS-205 unless otherwise noted. Do you have an idea for a guest speaker? Email Terri the details. Here are the scheduled guest speakers at PAS:

<http://www.pasaz.org/index.php?pageid=meetings>

--- Summer Break ---

Sept 7: Member and Guest Night - Sign up with Sam to do a 5 - 40 minute presentation. President@pasaz.org

Oct 5: Kai Staats "LIGO - Gravitational Waves"

Change in room at PVCC: KSC 1000A

Nov 2: Dr. David Williams "The Psyche Mission"



PAS was listed in the 2016 Winter Trail Map & Visitors Guide put out by DBG. Photo by Terri.



After a fun day of the Mt Graham Field trip on June 18 2016, the group went bowling in Safford. See the review on page 12 of the September 2016 PAStimes Newsletter. Photo taken by Sam.



Our vice president, Dr. Alex Vrenios, receives an award at the SARA (Society of Amateur Radio Astronomers) conference for his paper and presentation on the 'Five Projects' he completed for the Astronomical League's Radio Astronomy Observing Award.

PAS is Incorporated in the state of Arizona as a 501(c)(3) organization. Our newsletter PAStimes is published monthly from September to May, and is distributed via the Internet. All issues are available on our Website www.pasaz.org. Ads for astronomy equipment are provided as a courtesy to buyers and sellers and do not constitute any endorsement by PAS or PAStimes. All photos by Don Boyd unless otherwise noted. All articles and photos are copyright their respective authors or PAStimes.