



PAStimes

Phoenix Astronomical Society

www.pasaz.org

March 2020

Volume 71 Issue 7

PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

Michael Line to Speak at Mar 4 Meeting March 4th is a Wednesday!

“The Planets Way Out There”

I am a theoretical/modeler planetary astrophysicist at Arizona State University. My primary research drive is to understand the nature of exoplanetary and sub-stellar atmospheres and to help lay some of the theoretical groundwork and tools for ultimately detecting exoplanet bio-signatures.

My presentation for PAS will cover - There are ~9 planets and countless small bodies within our own solar system. While

our solar system is diverse and exciting, there is even more diversity outside of it. Through the hard work of planet-hunting astronomers we now know of thousands of planets (exoplanets) beyond our own solar system. These worlds are often much stranger than anything we could have imagined. I will discuss the diversity of the population of exoplanets and our inferences of what some of these worlds are like, providing context for our own pale blue dot.



Michael Line has been invited to PAS to present The Diversity of Extra-Solar Worlds. Wednesday March 4th in room LS-205. Photo provided by Michael.

At the March PAS Meeting

Bring a friend to this exciting PAS Meeting where we will have Michael Line providing a spectacular topic you won't want to miss. Bring a snack to share and if you can't bring a snack, please donate to the snack fund. PAS is collecting funds to

pay for the Pizza Party in April. Meeting doors of room LS-205 open at 7pm with 30 minutes of socializing, snacking and setting up the Guest Speaker. Come enjoy an evening of Astronomy with PAS! Everyone Welcome!

February 6th PAS Meeting

By Terri, Event Manager

A very exciting and fun meeting was enjoyed by all who attended and who found PAS in our new meeting room of LS-205, which is around the left corner after you get out of the elevator. Room LS-205 is a longer room but thinner and only has one door. There were 30 in attendance at this meeting. It was a full room.

The meeting opened at 7:32pm. Mike was really eager to present our First Guest Speaker of the evening, his meteorites, but I got him back on track and we opened the meeting with some super brief announcements and Lauren Edgar from the USGS took the floor at 7:34pm. Lauren shared the findings and some great photos of the Mars

Rover. The Mars Rover was launched in 2011 with the goal of a two year mission. Today it is still taking photos, processing samples of the rocks, and informing the USGS of its findings. A ton of great questions were asked at this meeting. Q&A started about 8:29pm and went on for 15-20 minutes.

There was a short break and then Brent Watson took the floor at 8:53pm. Brent was presenting on his 10" F10 Little Green Man telescope that he built. If you wish to have Brent's charts about the telescope, email him and request them at BrentJWatson@yahoo.com. Twenty-two people stayed for Brent's talk, which ended at about 9:50pm.



Lauren Edgar from U.S.G.S. gave a presentation about the Mars Rover at the February Meeting. Photo by Terri Finch.

See "February Meeting Review" on page 3.

Phoenix Astronomical Society Contact Info

President	Mike Marron	480-488-3031	President@pasaz.org
Vice President	Paul Facuna	602-246-1554	VicePresident@pasaz.org
Secretary	Pete Turner		
Treasurer	Eric Steinberg		
Event Manager	Terri Finch	602-561-5398	Events@pasaz.org
Newsletter Editor	Don K. Boyd		Editor@pasaz.org
PAS Host	Stu Brackney	480-221-5711	stubrckney@gmail.com
Librarian	Rod Sutter		Librarian@pasaz.org
Member at Large	Jenny Weitz	602-787-6818	
Member at Large/Equipment Manager	Bruce Wurst	602-971-3555	Brulipps@yahoo.com
Webmaster	Chris Johnson		Webmaster@pasaz.org

Phoenix Astronomical Society 3241 E Shea Blvd #249 Phoenix AZ 85028-3365

PAS Upcoming Events for March

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 the event is for PAS members only. If you wish to become a PAS member and attend the private events, please download a membership form here: <http://www.pasaz.org/forums/downloads.php?do=file&id=129>

Mar 4: PAS Meeting at PVCC Main Campus in LS-205 at 7pm. Note this is a Wednesday. More details:

<http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2999&day=2020-3-4&c=1>

Mar 5: STEAM-tastic Huge Public Star Party at Black Mountain Campus of PVCC from 6:30pm to 9:30pm. More details:

<http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2872&day=2020-3-5&c=1>

Mar 19: Huge Public Star Party at Black Mountain Campus of PVCC from 6:30pm to 9:30pm. More details: <http://www.pasaz.org/forums/calendar.php?do=getinfo&e=2993&day=2020-3-19&c=1>

[19&c=1](http://www.pasaz.org/forums/calendar.php?do=getinfo&e=3068&day=2020-3-28&c=1)

Mar 28: Public Star Party in Fountain Hills. More details:

<http://www.pasaz.org/forums/calendar.php?do=getinfo&e=3068&day=2020-3-28&c=1>

At the time of completion of this issue of the newsletter, several more events were in the planning stages and could not be listed as "Scheduled" until they are definitely happening. Please see our online calendar for the events that didn't make it into this list: the link is at the top of this article.

Sell Your Astronomical Equipment

By Terri, Event Manager

The PAStimes Newsletter is your means to selling your old, unwanted, but loved and used astronomical equipment. Write an ad with description, your contact info and photos, and get it in the next issue of the PAStimes Newsletter. Also, the ad will be posted in the "For Sale" PAS Forums and sent out to the 600 Astronomy Loving Arizona Residents who are on the

Public Email Notification List Serv where I post Upcoming Free/Public Events each month.

PAS Members may post items for sale, in the newsletter, for free. If you are not a PAS Member, please send a check with a donation of \$5.00 or more, payable to Phoenix Astronomical Society, to 3241 E Shea Blvd PMB 249 Phoenix AZ 85028.

Send all electronic data to Terri at StarStuff@gmail.com. I will confirm I got the ad and your check, ask any additional questions and prepare your ad to be in the newsletter. Renewing your ad is free until the telescope equipment is sold, with a reminder from you via email to include your ad in the next newsletter by the 10th of the month.

For Sale: 8" Celestron SCT + 6 Ft Diameter Observatory \$1599

Contact Michael at 623-931-2158

Here is a brief description and it is a package deal... Please see fliers for full details and what comes with this package at this link: <http://www.pasaz.org/forums/showthread.php?p=3448#post3448>

[php?p=3448#post3448](http://www.pasaz.org/forums/showthread.php?p=3448#post3448). It comes complete with everything you can think of that you would need to have a great time viewing through an 8" SCT, storing it in a telescope dome in your backyard, astronomy guide

books, such as star charts, and on top of that, adapters and the ability to do astrophotography! This is an amazing deal! There are two files to this ad. Please download both of them to get the package deal full list!

February Meeting Review

Continued from Page 1.

PAS then had a quick raffle drawing with two prizes. The usual raffle was won by Don Boyd. The second drawing was won by Peggy Yeargain and she received the book donated by Brent Watson "Select Double Stars." Brent also sold some of his books at the meeting.

It was a very good meeting with two awesome guest speakers. I wish to thank Brent and Lauren for providing such fantastic presentations! I'd also like to thank everyone who attended and either donated to the snack fund (collecting for the April Pizza Party) or brought snacks to share. There were plenty of good things to enjoy! Thanks also to Lauren for the great hand-outs!

Next meeting will be Mar 4th, which is a Wednesday! Please make a note of it so you don't miss the meeting.



Brent Watson presented Part 2 of his Telescope Making Info at the February Meeting. The photo on the screen is his home made 10" telescope. Photo taken by Terri Finch.

PAS Changes to Note

By Terri Finch, Event Manager

With the new year, 2020, PAS has made a few changes.

PAS has a new address. If you are mailing anything to PAS, make a note of

this new address: Phoenix Astronomical Society 3241 E Shea Blvd PMB 249 Phoenix AZ 85028. Anything can be sent to this address from any source (UPS, USPS, FedEx, etc) for the next 2 years minimum.

PAS has a new meeting room at PVCC Main Campus. For the rest of Spring 2020, PAS will be meeting in the LS Building in room 205. Please make a note of this change. Hope to see you at our General Meetings!

Pinnacle Peak Star Party Dec 28, 2019

By Mark Johnston, PAS Member

I did a star party last night at Pinnacle Peak Park in Scottsdale. Had 19 partici-

pants, cold but a good event. Saw the Moon, Venus, Uranus, Neptune, M57, M45, M42, NGC457, NGC869, Albireo,

Eta Cass, and M31/M32/M110.

What's Up For March?

By Don K. Boyd, PAStimes Editor

Name	Date	Rise	Set
Mercury	03-15-19	05:29	16:32
Venus	03-15-19	08:36	22:15
Mars	03-15-19	03:21	13:17
Jupiter	03-15-19	03:28	13:31
Saturn	03-15-19	03:55	14:06
Uranus	03-15-19	08:26	21:37
Neptune	03-15-19	06:26	18:01
Pluto	03-15-19	03:40	13:42

All Times Arizona Time

Bold means the object is "visible" in the evening

PAS is incorporated in the state of Arizona as a non-profit, scientific and educational 501(c)(3) organization. Our newsletter PAStimes is published monthly from September to May and distributed via Internet. All Issues are available for download on our website www.pasaz.org. Ads for astronomy equipment are provided as a courtesy to sellers and buyers, and do not constitute any endorsement by PAS. All Photos by Don Boyd unless otherwise credited. All articles and photos are copyright their authors or PAStimes.

March 15, 2020

Sunrise: 6:38

Sunset: 18:37



Q1: March 2



Full: March 9



Q3: March 16



New: March 24

Public Star Party at Desert Foothills Library Feb 24

This is NOT a PAS event, but PAS Members and the Public are invited to the Public Star Party at Desert Foothills Library in Cave Creek. Please note the correct address of 38443 N Schoolhouse Rd, Cave Creek, AZ 85331. The event begins at 5:30pm and goes to 8:30pm, with telescope

set up at 4:30pm.

We hope you can join us for a fun evening at the Foothills Library in Cave Creek on February 24th. RSVP to attend and help at this event with Bruce Arlen of the Cave Creek Dark Sky Initiative at info@cavecreekdarksky.com. PAS Mem-

bers and Public attendees, please RSVP with Bruce directly at the above email address.

Watch the link below for additional details and changes to this event: <http://www.pasaz.org/forums/calendar.php?do=getinfo&c=3081&day=2020-2-24&c=1>

Pinnacle Peak Park Star Party Jan 18

By Mark Johnston, PAS Member
Last night I, Mark Johnston, did a star party at Pinnacle Peak Park. Had about 15

attendees. Beautiful evening, saw Venus, Uranus, M31/32/110, M45, M42, close up of Trapezium, Rosette nebula, Castor, Eta

Cass, Owl Cluster, 37 cluster, and the Crab nebula. Stu Brackney attended and was a big help.

Five Day Trip to New Mexico

By Sam Insana PAS member
Frank and I did a five day trip to New Mexico in late January 2020. We did many different things, like seeing 12 bald Eagles in the Bosque del Apache National Wildlife Reserve, and going to a turquoise museum, but we also enjoyed some astronomy related activities. We spent an afternoon at the Very Large Array where 28 giant radio telescopes are aligned in differ lengths over 20 miles to get various images in the radio frequency. The meteorite museum at the University of New Mexico had a large exhibit of hundreds of specimens. Chaco Canyon with thousand year old pueblos had an archaeoastronomy ranger pointing out very interesting discoveries. We also picked up literature and posters and took many photos.



*This was a very impressive collection of Meteorites at the Meteorite Museum.
Photo by Sam.*



*Frank Insana at the Very Large Array in New Mexico.
Photo by Sam.*



Chaco Canyon ruins. Photo by Sam Insana.

"Mysteries of Astronomy"

Library Lecture Jan 25

By Mark Johnston,
PAS Solar System Ambassador
On Saturday, I presented "Mysteries of

Astronomy" to a group of about 20 people at the Glendale Heroes Library in Glendale. A small group was in attendance, as promo-

tion wasn't top notch, but those there enjoyed the program.

Two Scopes for Sale:

Explore Scientific 80 mm ED APO triplet: I used this telescope less than 10 times, the optics are pristine. Included with the Scope are: 2 inch diagonal and two extenders. I'm asking \$475.00, firm.

Cgem mount: I bought the Cgem used last July 2019. The mount works very well. Included with the mount are the following: Pelican case (the case shows some scratches but is tight, dry and secure); new Nexstar hand controller with USB port; new ADM

dual saddle; pole master adapter and 2 inch tripod. I want \$750:00 for the mount. I will sell the mount and ED 80 as a package deal for \$1,200.00. Thanks. Mario Gemini1718@q.com 480-892-3388

BMC Star Party Jan 23

By Terri, Event Manager

The weather was very cooperative for this event. We had a massive amount of RSVP's. At 2:30pm, I stopped confirming RSVP's and set my email to auto reply telling any additional RSVP's to come join us at BMC that night. When I looked at my email the next morning, I had about 50 more RSVP's that had come in.

The sky was clear, beautiful, and perfect for this event. It was chilly out. I think the chill in the air is what thinned out the attendees around 8:30pm when I walked out to the observing deck to find out who from PAS was in attendance and brought their telescope for this event. I counted 8 telescopes with the help of Matt, the Security Guards.

Attending this event from PAS was: Terri Finch at the PAS Table, and Mike Marron with his meteorite collection and a crowd around him all night long. We were indoors. Outside was Richard Sauerbrun

(newer PAS member) with his 8" scope, Ray Adams brought his 5" refractor, Sam Insana had his 8" scope, Pete Turner had a 12" Dob, Frank Otsuka brought his 8" scope, and Don Boyd was there with Paul Facuna and Don's 8" scope. Jenny Neujoy was working the telescope in the on-campus dome. I had the help of Kim Hollingworth indoors at the PAS table. Stu Brackney assisted outdoors. Many great PAS Members attended this event like Bob Ewing and he brought his friend Paul Hanson who had a small scope with a camera. We also had Leah Sapir attend with binoculars on a tripod. Ron Walker was there assisting with the vehicles going up and down the ramp to the observing deck.

I wish to thank everyone who attended from PAS, and everyone who attended from the public. I estimate over 100 RSVP's, but indoors, I only saw about 50 people. I'm not sure everyone attending knew there were indoor activities, such as

Mike with his meteorites.

I wish to congratulate new PAS members Steve and Patty Hochhaus! Looking forward to the next several BMC star parties on Feb 20, Mar 5, Mar 19, and Apr 16.

Please enjoy the photo that was taken through the 14" telescope in the telescope dome on the BMC Observing Deck. You can find and enjoy it at the bottom of Page 11 in the February 2020 issue of PAStimes Newsletter. Jenny Neujoy shot a stack of photos and provided this awesome picture for the newsletter. Thank you Jenny!

Stu writes: Hi everyone, I continue to be not only be proud of but amazed by the dedication and devotion of our club members. The BMC Star Party last night was another example. Not just an educational experience for the public, but a great time for members to share and learn from each other. Awesome turn out people, just awesome. As a novice, I totally enjoy this organization.

Encanto Elementary School Star Party Jan 24

By Terri Finch, Event Manager

The set up of this event was very easy with the help of Susana Chaput who is with the Encanto School PTO. Susana provided the pizza for the telescope team, but she was not seen at the event.

Sam Insana, Terri Finch and Storm Moon arrived at Encanto School at 5pm, which was 30 minutes earlier than was needed, in two vehicles. After checking with the office at the school, the custodian let us into the school grounds where we parked on the sidewalk. Around 5:30, which was to be the set up time for this event, Mike Marron arrived and also parked on the concrete. The pizza from Dominos arrived, the custodian signed for its delivery and the four of us, the Telescope Team for the night, enjoyed the pizza for about 20-25 minutes. Then we set up on the grass just off the concrete area we were parked on.

The event started early, with parents and their kids attending around 6:15pm. Sam was on Venus through his 8" scope right away, and I, Terri, put my scope on Venus as well before alignment. I had my 8" scope with me and Storm had her 8" scope. Mike had set up under a light against the building with his meteorites. From 6:15pm to pack up time at 8:30pm, there was a constant stream of kids and adults

around Mike and the telescopes.

The sky was totally clear, and the Orion Nebula was super clear in my telescope, however, the seeing was terrible. Other than the main bright objects we were able to show, nothing else was visible in the muck of the sky. This was a bummer. But, everyone attending enjoyed Orion Nebula through my scope, E.T. Cluster was shown by Storm, Sam had Venus until she was in the thick of the atmosphere on the Western Horizon and then Sam showed Gamma Andromeda for the last 45 minutes.

For about the last 45 minutes, Storm

and I hung out by our telescopes and talked to two marvelous teachers at this school: Amanda Herscovici, who teaches 1st grade

and Katrina Roberts, who teaches 2nd grade. We talked about the next star party at this school, and I told them to email me right away and set it up so they get first pick of the available dates.

The event was a great success. The pizza was marvelous and appreciated, and gobbled up by the telescope team. Many thanks to Susana for setting up this event and for Amanda and Katrina for hanging out with the telescope team. We look forward to doing this event again soon. And many super thanks to my telescope team for helping make this event a success!



Storm and Terri are seen setting up for the star party at Encanto Elementary School on Jan 24. Photo taken by Sam Insana.

Tonto National Monument Star Party Jan 25

By Sam Insana

This event was Great!! Stu Brackney was a big help. I drove him up with me. We hiked to the ruins, went through the museum, ate a big meal they provided, had about 100 people from Payson, Globe and the Valley attend.

Through my 8" scope, I showed the Andromeda galaxy, Gamma Andromeda which is a gold and blue double star, Perseus double cluster, and Orion nebula. Stu helped carry equipment, took photos of the milky way, and entertained people with astronomy tidbits. Two scopes from EVAC were there. Fountain Hills astronomy provided a solar system display stretching a few hundred yards. The Rangers gave a dark sky talk. The IDA also sent a guest speaker. Mike Marron wow'd the attendees with his meteorites.

It was a Bortle 2 dark sky. At 6 pm total clouds, but during viewing which was 7 to 9:30 pm, no clouds. It was a wonderful night!

By Christa Sadler, Park Guide/Volunteer Coordinator, Wildland Fire Public Information Officer at Tonto National Monument

Christa writes: Just wanted to send a quick thank you from all of us at Tonto National Monument for coming out and helping us with our Celestial Celebration event! We had 85 visitors attend the event and received lots of wonderful compliments about the telescopes and meteorite display.

We look forward to working with you again in the future, and I cannot thank you all enough for being flexible and pleasant to work with. Thank you for helping us share the beautiful night skies of Tonto!

By Stu Brackney

It was a clear day on Saturday January 25 as I rode with Sam to Tonto National Park for a star party. Riding with someone for two hours affords both of us an opportunity to get better acquainted, and oh my, this guy Sam has one heck of a story to tell about who he is and what he has done these many years.

It was my first trip to Theodore Roosevelt Lake and Tonto National Monument. Upon our arrival, I must say the view did not disappoint. We did a tour of the park museum and then hiked up to the

"lower ruins", which by the way is a bit steep. Again the view was fabulous and our Ranger Eric did a great job teaching us about the locals who lived here over 700 years ago, the Salados.

After food provided by the parks staff, Sam and I set up his telescope and waited for the sun to set and the visitors to arrive. We were located with members of the East Valley Astronomy Club and their scopes, so it was a team approach.

The Bortle 2 dark sky made this experience for me and our visitors one to remember. I brought my Canon 70D digital camera with me, thus had an opportunity to practice night sky photography. I realized on this night, I have a lot more to learn.

Conclusion: If you have the opportunity to visit Tonto for a star party, do it, you will be blessed with a blanket of beautiful stars, planets and oh so many other sky objects that are not available to you in the Valley of the Sun.

Stu emails Christa, We all totally enjoyed ourselves and your facility, but I must



View from the Cliff Dwellings. Photo by Stu.



Sam viewing the Tonto National Monument. Photo by Stu Brackney.

add, no matter how hard mother nature tried to provide us with a beautiful location, she could not have done it without your marvelous professional staff. Thanks for the in-

vite, we hope to return soon. Respectfully, Stu Brackney, Phoenix Astronomical Society

Stu adds: Thanks again Sam for allowing me to tag along. Awesome experience.



Sam Insana shot this fantastic photo of Stu Brackney making it to the top of the Tonto cliff Dwelling on Jan 25th.



Cliff Dwellings at Tonto National Monument. Photo by Stu.



Sam setting up his telescope at Tonto National Monument for that evenings Star Gazing party. Photo by Stu.



Sam up on the Cliff Dwellings looking down. Photo by Stu.



The Bortle 2 dark skies at Tonto National Monument make it a super enjoyable evening for viewing through telescopes and seeing the Milky Way. In this photo, Stu photographs the Milky Way. Photo by Sam.

Cambria Hotel Star Party Jan 29

Sam Insana, PAS member writes: Rich, so nice of you to have PAS on your 5 story rooftop with telescopes. I showed Venus, the Moon, Orion nebula and the Pleiades open star cluster to over 20 people. They loved it and also enjoyed the meteor-

ites I brought along. So glad the weather analysis was accurate. Take care, Sam

Rich Cerino, Director of Sales and Marketing for the Cambria Hotel writes: Thank you for coming and I appreciate the

additional items you brought to share. This is the second time we have done this type of event and it was a bit busier than the last time. Looking forward to next month. Thank you.

Telescope Workshop of Jan 30

By Terri Finch, Event Manager

This was one of the most attended Telescope Workshops PAS has ever had. For a month prior to the event, the RSVP's came in.

We had nine Telescope Teachers assisting at this event. Many thanks to those who helped, because without them, this class would have been too much to handle. Attending from PAS were William and Terri Finch, Calvin Vance, Pete Turner, Leah Sapire, Ted Blank, Sam Insana, Stu Brackney, and Roger Anzini.

Sixteen class members had RSVP'd, but not all showed up. Eight individuals attended to find out what telescope to purchase: Helen Nguyen, Pat and Steve Hochhaus, Jeff Stanlis, Mike Bradley, Justin Powell, Allen Dean and Ayna White. Stu and I set up in the middle of the room and

ran a "What Telescope to Purchase" (WTtP) class for about 1.5 hours with this wonderful group. Helen was looking for the best hiking telescope so I hooked her up with William for advice. Others brought their scopes, needing assistance with how to use them. Tracey Wright had her 4.5" Orion Star Blast along with Wesley Dykstra and his 8XT Orion Dob and they were assisted mostly by William. Jeff Stanlis brought his telescope, a Celestron Powerseeker 1273Q (5") telescope, and he got help from Ted and Roger. They started outdoors, then Jeff came in to join the WTtP with Stu and I. Carole and Michelle brought their Celestron C114CM and had the help of Pete, Ted and Roger. Allison Van Uum had her Bushnell 181561 and got some help from Roger. Mike Bradley spent some time with Leah after his visit to the

WTtP part of the class. Richard Sander attended with his Astro Master 130 with manual drive and had the help of Cal, Roger and Sam. Susan Blackledge and Timmy came with their Celestron 2024 "First Scope" and had the assistance of Cal and William.

There was one RSVP who cancelled, and four no shows. Prior to the start of this event, I sent out a reminder email to all attendees, told them what to expect and that I expected their attendance.

Many thanks to everyone who attended the class. It was a very busy class but super successful. Future Free Telescope Workshops in 2020 are scheduled on Apr 9, Sept 24, Oct 8, Nov 19. RSVP to attend soon, as seating is limited to the number of chairs in room G-149 and the number of attending telescope teachers.

Marley Park Star Party Jan 28

By Terri Finch, Event Manager

Sam Insana brought his 8" scope to this event and was the POC in charge at the event. He was setting up on the field when Storm Moon and I arrived with our two 8" telescopes and we set up next to Sam on the field. We were making a straight line of telescopes at this event. Shortly after, Pete Turner arrived and had his 12" scope. Mike Marron and Ofelia Waters then showed up and set up under the first possible light against the school building.

Jennifer Adams was the awesome teacher who set up this event with PAS. She provided the pizza and bottled water and we provided some awesome views of the night sky. The evening was clear, no clouds at all, and there was a slight breeze which caused the temperature drop drastically by the time we were done enjoying pizza and setting up our equipment from 6pm to 7pm. Everyone was bundled up for the rest of the evening.

We set up in a straight line with Pete as the first scope the attendees would come to, then Sam, Storm and me. I had Venus for

most of the evening until a light pole got in the way. Yes, that darn light pole just got in my way and Venus was no longer my object. Since Sam, further down the line of telescopes, was able to see Venus, around 7:45pm, I asked him to swap with me. He had the Orion Nebula, so we swapped objects. Pete had the Moon for the evening, and Storm showed her favorite object, ET Cluster.

The event was a great success. I'd estimate we had about 75 people attend with three of them being teachers.

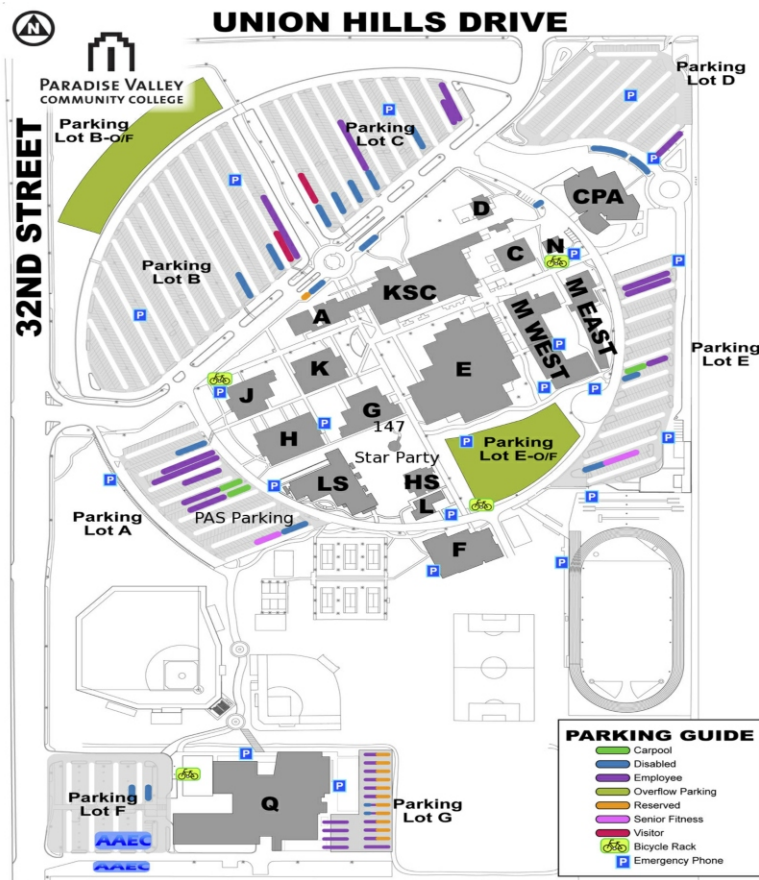
I wish to thank Jennifer for having PAS at her school event. PAS was the main attraction for the night. I also wish to thank my Telescope Team for the awesome job we did as a team showing four different objects through the four scopes that attended. This event was to happen 7pm to 9pm, but around 8:30pm, everyone was cold, the parents and kids of the school had left, and Jennifer had us pack up and go home. The night sky was the clearest it's been in a long time. Looking forward to doing this event again next school year.



Ted Blank received an NSN Award Certificate and NSN Pin for his many Public Outreach efforts in 2018. Ted missed the Awards Ceremony in April of 2019 where he would have received this award. So, Terri Finch caught up to him at the Jan 30, 2020 Telescope Workshop, and with Sam Insana taking this photo, presented this awesome award to Ted. Be sure to attend the April 30, 2020 Awards Ceremony & Pizza Party so you can congratulate your fellow PAS Member and possibly receive an award yourself.

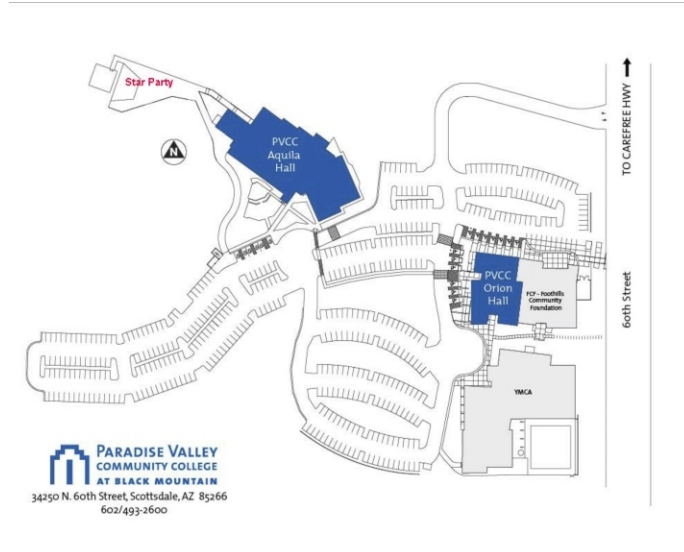
Map of PVCC Main Location

18401 N. 32nd Street | Phoenix, AZ 85032



Map of PVCC Black Mountain

34250 N. 60th Street | Scottsdale, AZ 85266



2020 PAS GUEST SPEAKER LINE-UP

By Terri Finch, Event Manager Events@pasaz.org

PAS Meetings are held at PVCC Main Campus on the first Thursday of the month in Room: **LS-205** unless otherwise noted. Do you have an idea for a guest speaker? Email Terri Finch, Paul Facuna, or Mike Marron for the details (their email addresses are at the top of page 2 in this newsletter).

Here are the next scheduled guest speakers at PAS:

Apr 2: Eric Steinberg, Topic: The Physics of Chernobyl

May 7: Vincent Cataldo, Topic: Planetary Science

More information at:

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

March 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4 <i>PAS Meeting</i>	5 <i>Public Star Party</i>	6	7
8	9	10	11	12	13	14
15	16	17	18	19 <i>Public Star Party</i>	20	21
22	23	24	25	26	27	28 <i>Public Star Party</i>
29	30	31				