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Astronomical League of the Philippines' *HerAld*

Vol. 7, Issue No. 1

January 2009

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www.astroleaguephils.org

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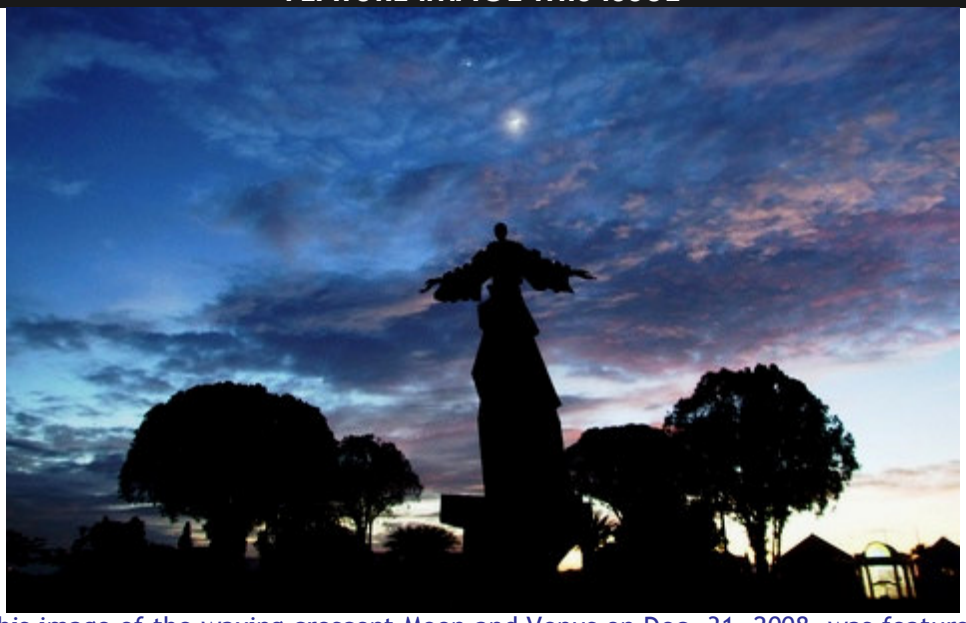
FEATURE IMAGE THIS ISSUE



This image of the waxing crescent Moon and Venus on Dec. 31, 2008, was featured on the January 1 web page of Spaceweather.com and is an apt image for our New Year's issue, highlighting new beginnings and marking a great start to IYA 2009. This image shows Venus and the Moon with the sculpture of the Transfiguration. © *Mac Libid*

CLUB NEWS

December Meeting

Last December 14, members of the Astronomical League of the Philippines (ALP) held their Christmas party/Annual Election at the National Museum - Manila Planetarium, starting around 3:30 p.m. Members present were James Kevin Ty, wife Charito, and son Kendrick Cole (KC); Dr. Jett Aguilar; Dr. Armando Lee, wife Mia, and son Jason; Alfonso Uy; Rich Pijuan; Elena Moya; Jomar Lacson; Alexander Loinaz; Dante Noche and wife Rosie; Alfonso Sy; Peter Benedict Tubalinal; Brian Davis; Angie Tan; Melisa Bata; Henry So; Vincent Lao; Andrew Ian Chan; Bel Pabunan; Tommy Tan and friend Jeremy James Tan; Hernando Bautista; Edgar Ang; Aran Lester Rueda and friend Alexander Mariano; Lea Visaya; Sheri Mae Domingo and friend Daniel Coquinco; and, newest member Valorie Camarao.

ALP Ways and Means Chair Melisa Bata leads the opening prayer.

ALP Membership Chair Angie Tan was the emcee and game host for the night

ALP director Brian Davis also brought along his 127-mm ED refractor on Atlas EQ-6 mount for members to view the night sky. Directors Melisa Bata and Angie Tan helped out in the registration and membership renewals, while Treasurer Henry So and Melisa Bata handled the election proceedings. For the year 2009, 5 of the current 13 directors are up for reelection. These were ALP president James Kevin Ty, Membership chairperson Angie Tan, PRO Rich Pijuan, Secretary Alice Villa-Real and Director Jomar Lacson. Edgar Ang is the lone new nominee to run against the directors up for re-election.

Prior to the start of the main program, ALPers renewed their annual dues as well as casted their votes for their 5 directors. The ALP 5th Anniversary souvenir program book was also distributed to members who hadn't gotten their copies yet. Ways and Means Chair Melisa Bata then led the opening prayer. Membership Chair Angie Tan then acted as the emcee and game host, and announced the night's activities.

For this year, the annual exchange gift routine was replaced by 3 fund raising projects for our society to purchase its own LCD projector. They were:

1) Cash for Trash - ALPers brought their old (working or non-working) electronic equipment such as CPUs, printers, office chairs & tables, scanners, laptops, etc., to trade in for a small amount of cash which HMR, represented by ALPer Elena Moya, will pay members the corresponding trade-in equivalent. Members can opt to give the entire or part of the amount to the society for its LCD projector fund raising program.

2) Fund Raising through voluntary donations/pledges - a pledge box will be passed around that evening for members

(⇨ *p. 2*).

to give voluntary donations of any amount to help raise for the fund.

3) Sell Your Wares - members can bring items such as books, eyepieces, etc to sell to members and they can either donate the entire amount or in part to the fund.

Some of the games played that evening were:

1) THE LONGEST YARD (song "Great Balls of Fire"). Search around the ground for scattered yarns - group mates pick as much yarn fragments, tie them each in a knot, and the group that makes the longest line wins the game. Score 20 points, participation of all members +5 points

ALPers helped each other out in trying to tie as much yarn as possible for them to get the longest yard. That's what you call "Teamwork!"

2) YAYA GOES TO MARKET (song 'Walking on Sunshine"). It's time for yaya to go to the market. Dress up, put on your bandana, bring along your spectacle, este binocular, your open umbrella, and carry your bayong.

Yaya Doc Lee using his binoculars

Walk along the CROOKED PATH to reach the "talipapa", looking at it through the binocular TURNED UPSIDE DOWN. Once you reached the "talipapa", each player will shop for just 1 thing on the list and put it in the GREEN BAG. Pick any one item on "KUYA's Sampung Utos." Hurry back to your team members with your umbrella open because it's already raining. Remove your market attire for the next yaya to do the same. Team mates can help the player dress up.

Bawal po ang tsansing. Team members wave the bandana when all Yaya's are done with shopping! Mas higit pa sa…SAMPUNG UTOS NI KUYA

URSA MAJOR, LEO, ORBIT, The Hunter, Moonrock, MERCURY, PISCES, HORSEHEAD NEBULAE, CRUX, CANIS MINOR, Milky way, I-Piece, Sun

First team to finish - 20 points. Completed task and correct items: "Listahan ni kuya" +20 points. Participation of all team mates +10 points

3) ASTROQUIZ WITH A TWIST! Teams should fall in line according to height! Smallest to tallest….or according to width, whichever the teams prefer.

Each team will send in 1 team representative at a time. The first one to ring the bell should answer the question in 15 secs. When done, Player #1 moves to the end of the line. And player #2 gets to be the next contestant. If the team representative cannot answer the question he/she can get assistance from the HELPLINE. Each HELPLINE can only be used once by each team.

1. "PASS" THE QUESTION": You may let the opposing team answer the question. If the opposing team answered correctly, they get to score. If they answered incorrectly, the team gets the score.

2. CHEAT: The representative can ONLY ask from teammate NEXT to him or her for the answer. Wrong answer, no score.

3. MULTIPLE CHOICE: Player may pick multiple choice answers. Wrong answer, no score.

4. STEAL: You may steal any one of the opponents' team members to join your team to answer the question, however the opposing teams cannot steal back their ex-teammate.

5. TRADE: trade-in your question for a new question. The opponent will draw a new question, if they got the answer correctly they get to score. They too get the chance to seek the helpline during this round. If they still do not get the right answer, the team gets the score.

The HELPLINE can only be used once by each team, and once used up, the participant will rely on brain power to score for the team, so it had to be used wisely.

As the games were being played and prepared, ALPers also had a bountiful dinner as prepared by ALPers Angie Tan, Rich Pijuan, and Bel Pabunan. ALP president James Kevin Ty also brought along a Magic Sing Karaoke Sing-Along unit for the members to show their singing talent to fellow members. Among the surprises were from ALP director Alfonso Uy who showed the younger members how good his singing skill was! Among the great songs he sang that evening were "Danny Boy" and "Edelweiss." James also sang his personal favorite, "My Way" by Frank Sinatra. Lots of ALPers also sang that evening as members used that opportunity to get together to celebrate their friendship.

ALP Director/Ways & Means Chairperson Melisa Bata accepting her Certificate of Appreciation from ALP President James Kevin Ty

James also presented the "Highlights of ALP for the year 2008" and also thanked the members as well as all the sponsors for their great support, especially on the ALP 5th Year Anniversary Souvenir Yearbook Project. Without their full support, the project would not have been a success. Of course, there were ALPers who showed exceptional effort and contributed their time to help out in the project: Melisa Bata, who garnered the most ad support for the yearbook project; and, Angie Tan, who also helped a lot (⇨ *p. 3).*

in ad procurement for the project but also helped follow up members on their support for the yearbook. Both were presented Certificates of Appreciation by the ALP president for their invaluable contribution of time and effort to the successful launching of the ALP 5th Year Anniversary Yearbook.

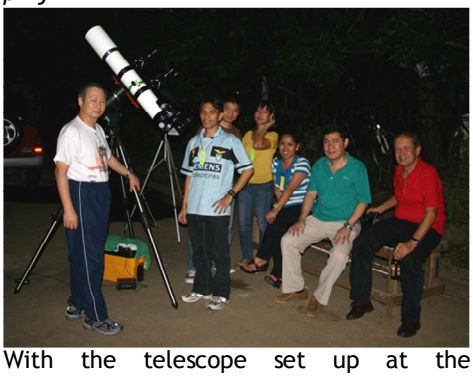
ALP Director/Membership Chairperson Angie Tan accepting her Certificate of Appreciation from ALP President James Kevin Ty

ALP Vice-President Dr. Jett Aguilar accepting the Father Victor Badillo Astronomy Service Award on behalf of ALPha editor-in-chief Francisco Lao, Jr. from ALP President James Kevin Ty.

2008 Father Victor Badillo Astronomy Service Award

Last, but not the least, ALPha editor-in-chief Francisco Lao, Jr. was presented the 2008 Father Victor Badillo Astronomy Service Award for his invaluable contribution to the successful launching of the ALP 5th Year Anniversary Yearbook as well as being the editor-in-chief of ALPha, the official newsletter of the society, which has come out monthly, without fail, since its inception. Since he was not in the Philippines yet to accept his award, ALP Vice President Dr. Jett Aguilar received the award on his behalf.

ALP Treasurer Henry So discussed his plans for the fund raising project for an LCD projector



With the telescope set up at the Planetarium grounds, ALPers went out to observe objects such as the Moon and M42, the Great Orion Nebula. Some members also used that time to try to observe the Geminid meteor shower. Although there was the Moon's glare, some members were able to catch a few bright Geminids that evening.

After the election votes were tallied, the following new directors were elected:
1) James Kevin Ty
2) Angie Tan
3) Rich Pijuan
4) Alice Villa-Real
5) Edgar Ang

With the presence of 7 directors, which constituted a quorum, the following officers and committee chairs were elected:

2009 OFFICERS:
President - James Kevin Ty
Vice President - Dr. Jett Aguilar
Secretary - Rich Pijuan
Treasurer - Henry So
Auditor - Brian Davis
PRO - Alice Villa-Real

BOARD MEMBERS:
Edgar Ang
Melisa Bata
Jomar Lacson (replaces Raymund Sarmiento)
Angie Tan
Edward Eli Tan
Peter Benedict Tubalinal
Alfonso Uy

While Director Raymund Sarmiento still has a year to serve, he has decided to relinquish his final year term as director. Sixth place nominee Jomar Lacson will finish Director Sarmiento's remaining year.

Committee Chairs for 2009:
2009 Total Solar Eclipse Expedition Team - James Kevin Ty
Observation - Peter Benedict Tubalinal
Instrumentation - Jomar Lacson
Education - Dr. Armando Lee
National Astronomy Week - Dr. Armando Lee
Membership - Angie Tan
Ways and Means - Melisa Bata
Special Events - Angie Tan
Publications (ALPha) - Francisco Lao Jr.
Publications (Phil Journal of Astronomy) - Raymund John Ang
Webmaster - Jonathan Ty
Web Content Editor - James Kevin Ty

The party ended at around 11:45 p.m. - *James Kevin Ty*

Philippine Journal of Astronomy

We are launching the first astronomical journal in the Philippines, the Philippine Journal of Astronomy or PJA. It is now accepting both refereed and non-refereed contributions for publication.

The journal is going to be published by the Astronomical League of the Philippines (ALP). The Journal is currently constituting its editorial board to peer-review and write the articles. The website (which has submission guidelines is at: http://www.astroleaguephils.org/pjastro.html
with Raymund Ang as Managing Editor.

BREAKING NEWS

IYA 2009

The International Year of Astronomy (IYA) 2009 is a global effort initiated by the International Astronomical Union and UNESCO to help people all over the world rediscover their place in the Universe through the day- and night-time sky, and thus engage a personal sense of wonder and discovery.

Everyone should realize (as amateurs know so well) the impact of astronomy and other fundamental sciences on our daily lives, and understand how scientific knowledge can contribute to a more equitable and peaceful society. IYA 2009 activities will take place locally, nationally, regionally and internationally. National Nodes have been formed in each country (the Philippines has its National Organizing Committee or IYA 2009 NOC) to prepare activities for 2009. These nodes will establish collaboration between professional and amateur astronomers, science centers and science communicators to prepare activities for 2009. 135 countries are now involved and well over 140 are expected to participate eventually.

To help coordinate this huge global program and to provide an important resource for the participating countries, the IAU has established a central Secretariat and an IYA 2009 website (www.astronomy2009.org) as the principal IYA 2009 resource for public, professionals and media alike. Philippine-based organizations are encouraged to coordinate with the IYA 2009 NOC to get activities recognized.

Superbolide!

On the early morning of Dec. 6, a fireball one hundred times brighter than the full Moon lit up the sky near Colorado Springs, Colorado. Astronomer Chris Peterson photographed the event using an all-sky video camera dedicated to meteor studies. "In seven years of operation, this is the brightest fireball I've ever recorded. I estimate the terminal explosion at magnitude -18." Meteors this bright are called superbolides; they are caused by small (meter-class) asteroids and are likely to pepper the ground with meteorites when they explode. A few fragments have since been found.

A remarkable fireball blazed across California on Dec. 27th, at around 1:50 a.m. Pacific Standard Time. Its brilliant blue-green light caught the attention of onlookers (some inside their homes) all the way from San Francisco Bay in the north to the Los Angeles metropolitan area in the south - a range of more than 540 km. According to one account, the object exploded with a thunderous boom, producing a spray of golden-colored fragments. — *Spaceweather.com*

The Center of the Milky Way

In a study using several of European Southern Observatory's (ESO) flagship telescopes, a team of German astronomers has produced the most detailed view of the surroundings of our galaxy's heart — a super-massive black hole. The research has unraveled the hidden secrets of this tumultuous region by mapping the orbits of almost 30 stars, a five-fold increase over previous studies. One of the stars has now completed a full orbit around the black hole.

Astronomers have studied the super-massive black hole by watching the motions of 28 stars orbiting the Milky Way's most central region, Sagittarius A. The new research marks the first time astronomers have calculated the orbits of so many of these central stars precisely. The observations reveal information about the enigmatic formation of these stars — and about the black hole to which they are bound.

The center of the galaxy is a unique laboratory where we can study the fundamental processes of strong gravity, stellar dynamics, and star formation that are of great relevance to all other galactic nuclei, with a level of detail that will never be possible beyond our galaxy. The interstellar dust that fills the galaxy blocks our direct view of the Milky Way's central region in visible light, so astronomers used infrared wavelengths that can penetrate the dust to probe the region. While this is a technological challenge, it is well worth the effort. The galactic center harbors the closest super-massive black hole known. Hence, it is the best place to study black holes in detail.

The team used the central stars as "test particles" by watching how they move around Sagittarius A. Tracking the central stars shows the nexus of forces at work at the galactic center. These observations can then be used to infer important properties of the black hole itself, such as its mass and distance.

The new study also shows that at least 95 percent of the mass sensed by the stars has to be in the black hole. There is little room left for other dark matter.

Undoubtedly the most spectacular aspect of our long-term study is that it has delivered what is now considered to be the best empirical evidence that super-massive black holes do really exist. The stellar orbits in the galactic center show that the central mass concentration of four million solar masses must be a black hole beyond any reasonable doubt. The observations also allow astronomers to pinpoint our distance to the galactic center with great precision, which is now measured to be 27,000 light-years.

To build this unparalleled picture of the Milky Way's heart and calculate the orbits of the individual stars the team had to study these stars for many years. These latest groundbreaking results represent 16 years of work that started with observations made in 1992 with the System for High Angular Resolution Pictures (SHARP) camera attached to ESO's 3.5-meter New Technology Telescope located at the La Silla Paranal Observatory in Chile. More observations have continued since 2002 using two instruments mounted on ESO's 8.2-meter Very Large Telescope (VLT). - *European Southern Observatory*

Infrared Swan Nebula

NASA's Spitzer Space Telescope has captured a new, infrared view of the choppy star-making cloud called M17, or the Swan nebula. The cloud, located about 6,000 light-years away in the constellation Sagittarius, is dominated by a central group of massive stars — the most massive stars in the region. These central stars give off intense flows of expanding gas, which rush like rivers against dense piles of material, carving out the deep pocket at the center of the picture *(⇨ p. 5).*

Winds from the region's other massive stars push back against these oncoming rivers, creating bow shocks like those that pile up in front of speeding boats.

Three of these bow shocks are nestled in the upper left side of the central cavity, but are difficult to spot in this view. They are composed of compressed gas in addition to dust that glows at infrared wavelengths Spitzer can see.

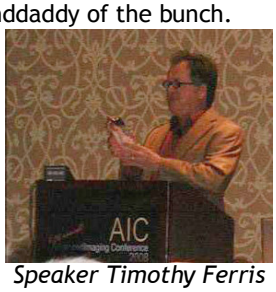
The smiley-shaped bow shocks curve away from the stellar winds of the central massive stars. In the image above (Credit: NASA/JPL-Caltech/Univ. of Wisc.), dust is red, hot gas is green and white is where gas and dust intermingle. Foreground and background stars appear scattered through the image. – *Space.com*

Reports

Advanced Imaging Conference 2008

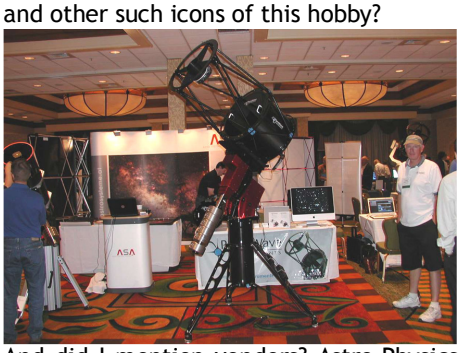
The AIC is the Advanced Imaging Conference, the first imaging conference set up for amateur digital imagers. It became so popular that an East Coast version (the ECAIC) was spawned. Imelda Joson was a speaker for that first event. Unfortunately, attendance slipped and the ECAIC got cancelled. But there is now a Northeast AIC (NEAIC), the event that precedes NEAF, and now there is a Midwest AIC, held near Chicago. I've been meaning to get to that one myself one of these years. Now that I've attended the West Coast AIC, I hope to make an effort to get to the Midwest version next year.

The Advanced Imaging Conference (or AIC) was started in 2004 as a means for astronomy imaging enthusiasts to get together and share their image capture and processing techniques with each other. This conference has been so popular that it has spawned similar such conferences in the east coast (the Northeast Advanced Imaging Conference, or NEAIC), as well as the Midwest (the Midwest AIC, or MAIC). These two new conferences are growing in attendance and popularity, but the original AIC is still the granddaddy of the bunch.



Speaker Timothy Ferris

I had always been interested in attending the AIC ever since it started, but for one reason or another had been unable to attend until this year, and I was not disappointed. Not only did I have a chance to hear advanced imagers speak on their areas of expertise, I got to rub elbows with master imagers as well as several others whom I knew and communicated with on the Web but had never met before. Where else can an imaging aficionado get to rub elbows with such imaging giants as Adam Block, R Jay Gabany, Ron Wodaski and other such icons of this hobby?



And did I mention vendors? Astro-Physics was there, along with a laundry list of manufacturers and vendors of dream imaging equipment: SBIG, Finger Lakes Instruments, Apogee, RC Optical Systems, Software Bisque, Cyanogen Software, Planewave Instruments, Astrodon, Ceravolo Optical Systems, Astro Tech of Italy, and Hutech, among others. Even Orion Instruments was there, showing off its latest imaging scopes and cameras.

The conference started on Friday, November 14, with a set of optional pre-conference workshops. Four workshops were presented at a time, and attendees had a chance to attend the workshop that interested them the most. If there was a conflict, the workshops were held twice, giving attendees a fair shot at all of them. The workshops this year were:

- ACP automated imaging by Bob Denny
- CCD Autopilot Imaging by John Smith
- CCD Commander Imaging by Matt Thomas
- CCD Stack Image Processing by Stan Moore
- ImagesPlus Image Processing by Mike Unsold
- Maxim DL Image Processing by Doug George
- PixInsight Image Processing by Jack Harvey
- Successful Remote Imaging by Mike Rice
- T-point made simple by Ron Wodaski

Unfortunately, I was not able to attend the Friday workshops because of a scheduling conflict. Fortunately, these workshops are an optional, extra-fee add-on to the conference, so I did not waste any money either *(⇨ p. 6)*.

I arrived Friday afternoon, and after registering, wandered the vendor booths (a dangerous activity for my wallet, but it escaped reasonably unscathed). I managed to spend some time with one of my imaging heroes, R Jay Gabany, who is also registrar and webmaster of the conference. I managed to gain some image processing tips from him as a result.

Saturday started with the presentation by the conference officers of the Hubble award to Timothy Ferris for his work in the creation of his documentary, "Seeing in the Dark". Mr. Ferris went on to share his experiences with the filming of this documentary, sharing a few scenes from that show with the audience along with a few anecdotes about how those scenes were put together. This is a spectacular show that highlights the current state of amateur astronomy and astrophotography. While I missed its original broadcast last year, I managed to catch a rerun a few months ago. If you have not seen this documentary, I highly recommend it, and watch it in HD if you can!

Next up was John Gleason, famous for his spectacular Hydrogen-alpha wide field monochrome images. He gave a short overview on how to get started in narrow-band imaging, specifically Hydrogen-alpha imaging, and a short demo on how to process these images to create results similar to his.

Michael Bakich, photo editor of Astronomy magazine, followed Mr. Gleason. He shared with us "a peek into his brain", as he described it. Essentially he shared ideas on what types of images he is looking for for the magazine's Readers' Gallery (hint: he already has 29 hi-res images of M20, the Trifid Nebula!). Images that they rarely receive and which they will consider include double stars (especially if they highlight the color differences), variable stars at minimum and maximum (shot with the exact same instruments and exposure times and processed similarly to highlight the brightness difference), less popular meteor showers, planetary conjunctions, galaxy groups, ultra-widefield shots (interested especially in 7-degree FOV), and images of the same object at different wavelengths (an example he gave was of the Sun in white, Calcium and H-alpha).

The Founding Sponsors of AIC (SBIG, Software Bisque and RC Optical systems) had representatives present their upcoming products. Alan Holmes of SBIG presented the next-generation STX camera and potential new filter "butterfly" (a new filter selection system moving away from wheels to allow a more symmetrical weight load of the imaging train), a new All-Sky camera, and a new stand-alone auto guider (the auto guider is designed to work without a computer in the field, allowing DSLR and film photographers to image free of computers once again!).

Steve Bisque of Software Bisque presented TheSkyX, the next generation of TheSky software, which he projects as being 50 times faster and even more feature-rich than TheSky6. TheSkyX is written in a new multi-platform language, allowing Software Bisque to use a single code-base to create TheSkyX for the Mac, Windows, Linux and even mobile devices.

Last up was Adam Block for RC Optical Systems. The actual RC Optical Systems representative was unavailable, so Adam presented his perspective as a delighted RCOS user. He is now working at Mount Lemmon, with a 24" RC on loan while awaiting a 32" RC!

Alex Filippenko was next, and he presented "Dark Energy and the Runaway Universe". He is a professional astronomer and professor at UC Berkeley, and if you have never heard him speak, you will be in for a treat. Not only is he a great astronomer, he is also an excellent presenter and an entertaining speaker. As a quick sample, he illustrated the extra oomph provided by the core rebound of a core-collapse supernova with a simple experiment: he bounced a tennis ball first by itself, then bouncing off a basketball to highlight the boost in energy of the combo.

Ron Wodaski, referred to by the host as "The Godfather of CCD Imaging", gave a presentation on what he has been doing lately: he is now director of a non-profit organization, the Tzec Maun Foundation. The services of this foundation are available for free (that's right, FREE) to students and teachers (and soon, researchers) around the world. The aforementioned users can apply at the Tzec Maun Foundation's web site at www.tzecmaun.org and use the foundation's telescopes to shoot CCD images of deep space objects.

Here's an exciting bit: the foundation is setting up scopes in Australia. He emphasized this by showing an image shot recently (within the day!) of the Eta Carinae nebula by a student. And here's an even more exciting bit: the foundation is looking for volunteers to help students and teachers work the telescopes.

Sean Walker, Photo Editor of Sky and Telescope, gave a presentation on collaborative imaging. This is where geographically-separate imagers can collaborate on collecting image data for the same target at the same time. This also allows a clouded-out imager to still collect or use data from their partner at a non-clouded out location. He presents this from experience, imaging in collaboration with Sheldon Faworski in the Midwest while he (Walker) images from the east. Chris Ford of Pixar Animation, the studio behind such CGI hits as the recent Wall-E and Ratatouille, rounded out the night. It turns out that he is an avid astro-imager himself, and he gave a presentation on providing a new twist to astro-images: rendering them in 3D!

Breakfast, lunch and dinner were provided by the conference. Saturday and Sunday's breakfast was a continental breakfast of doughnuts, Danishes, and coffee. Saturday's lunch was a sandwich boxed lunch, and a snack was provided on Saturday afternoon, which was a nice spread of the Doubletree hotel's sumptuous cookies (those cookies are reason enough to stay at a Doubletree hotel!).

Saturday evening was a nice buffet, and I had the pleasure of having dinner with Adam Block and the owner/operators of New Mexico Skies, Mike and Lynn Rice.

After Sunday's continental breakfast, the conference resumed with a presentation by Ray Gralak, author of PemPro and PulseGuide, among other popular astronomy software packages. His presentation was on advanced image combine techniques *(⇨ p. 7)*.

His presentation helped summarize the important differences between the many different stacking techniques for astro-image subframes.

Sunday's presentations were rounded out by Wolfgang Promper, whose presentation was on "Getting the Most Out of your Site". Wolfgang images from a light-polluted site, and he shared techniques on getting impressive results from otherwise mediocre data taken from a less-than perfect site. The conference was rounded out by the always highly-anticipated door prize raffle. Unfortunately, I did not come home with any goodies from that raffle.

Compared to what I had heard in the past, the 2008 AIC was a little lighter on the image acquisition and processing presentations than I had expected. Door prizes were also less significant than prior years (some lucky attendee in a prior AIC went home with a 10" Ritchey-Chretien!). The biggest prize this year was an FLI PDF focuser. Nevertheless, it was still a grand conference worth attending. It's also possible that the best presentations were the ones I skipped (the optional Friday workshops). I hope to attend a future conference. Barring that, there are other similar conferences that are within a day's drive of Cincinnati: the Northeast AIC (held before NEAF), and the Midwest AIC, usually held around summertime at a university near Chicago (definitely drivable!). – *Eric Africa*

Calamba Stargazing

A team of ALPers left for Caliraya at around 2:30 in the afternoon amidst a cloudy sky in Metro Manila. They (James Kevin Ty, Tommy Tan and Vincent Lao) were hoping that the sky in Caliraya would be better. James' contact reported that it rained in the morning there but it has since stopped. It is difficult to predict the weather condition in Caliraya as it is usually different from the lower grounds. When they reached the Magallanes Shell station, they were joined by Doctor Armando Lee and his RTU astronomy students, namely Miguel Artificio, Pauline Pearl Divinagracia, Antonette Icot, Angela Lequiron, and Cliff Weinston Roa. After stocking up on supplies such as snacks and energy drinks, they continued on their journey.

Along the way, they were able to observe some sun rays passing through holes in the otherwise cloudy sky. When they were near the expressway exit, the sky there was almost cloud-free. Tommy even joked that they should set up on the greens there instead of proceeding to Caliraya. As they neared the intended observation site, they were disappointed as the sky was almost devoid of stars. While having dinner at Pagsanjan, a slight glimpse of hope emerged as the 2 brightest planets, Venus and Jupiter, could be seen.

After dinner, they proceeded to the usual camping ground, the Caliraya Ecosaddle. They waited outside to see if the sky will clear up sufficiently for proper observing. They did not immediately enter the resort to avoid paying the entrance fee. While waiting for the sky to clear up, the RTU students were already busy studying the constellations whenever an opening emerged. They were also having fun catching fireflies. One can almost hear the ooohs and the ahhhs when a clear patch of the sky showed up as the students were not used to the darkness of the site – a darkness unknown to most people living in Metro Manila.

About an hour or two and a few drizzles later, the team decided that the sky will stay covered and will not allow them to observe and image properly. So they proceeded to plan B, which was to visit Dr. Lee's house and private observatory dome in Calamba.

RTU Astro Tech students lined up to get a glimpse of Orion Nebula through Vincent's Orion Starblast reflector.

When they arrived there, Dr. Lee showed them his mini dome with a 10-inch Dobsonian temporarily housed inside. After peering through the eyepiece, James noticed that it was out of collimation. So they showed the students how to collimate a reflector's optics and let the students use it to their heart's content. After resting and chatting a bit, the ALPers noticed that the sky was clearing up, which might give them some chance to observe and image, so they quickly set up their telescopes. Tommy was very excited to try out his 5" Orion Apex 127 Maksutov-Cassegrain reflector on a sturdy Slik fluid video tripod; James brought his usual TV-101 refractor on GP-DX mount, while Dr. Armando Lee brought his WO Zenithstar II ED refractor on Orion Atlas EQ-6 mount. James was doing his usual imaging setup and testing the sky condition with a few short exposures. Doc Lee was showing his students how to set up a telescope and photograph DSOs. Vincent was doing a bit of visual observation and photography. The sky however was still giving them a hard time, because the clouds came and went.

ALPers and RTU Astro Tech students posed for a group shot

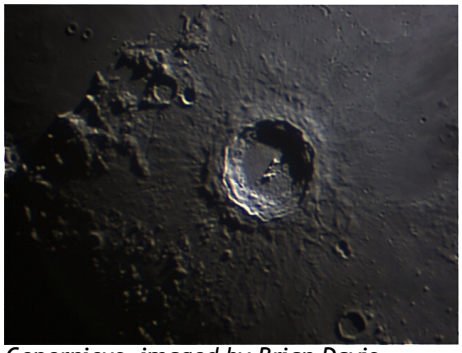
After some time, they decided to call it a day and pack up their stuff. Tommy was a bit disappointed that the mount he borrowed wasn't stable enough for good views, but he was satisfied to find out that a photo tripod will not work for him. The most excited were the students, who learned how to use a telescope, photograph distant objects, and most of all appreciate the dark sky.

A half arc rainbow was visible after a light drizzle in the early morning.

They rested a bit until daylight arrived. There was even a nice rainbow visible at the site early in the morning. It was then time to head for home. - *Vincent Lao, with images by Dr. Armando Lee & Vincent Lao*

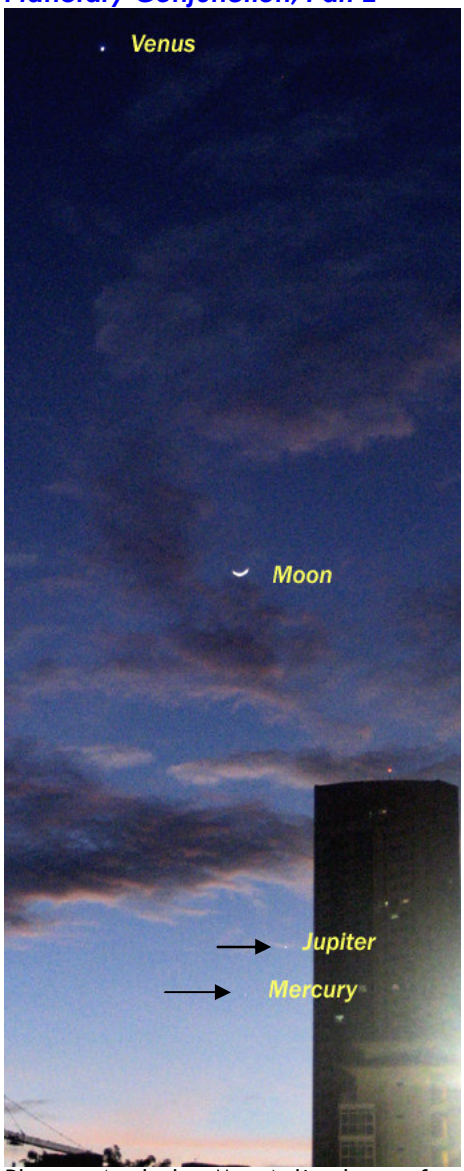
Copernicus

At 93 kilometers in diameter, Copernicus is one of the most prominent features visible on the Moon. It is a relatively fresh crater, believed to have formed less than 1 billion years ago. The image on the following page is composed of 700 frames via my 127ED at f/30 with reasonable seeing. – *Brian Davis*

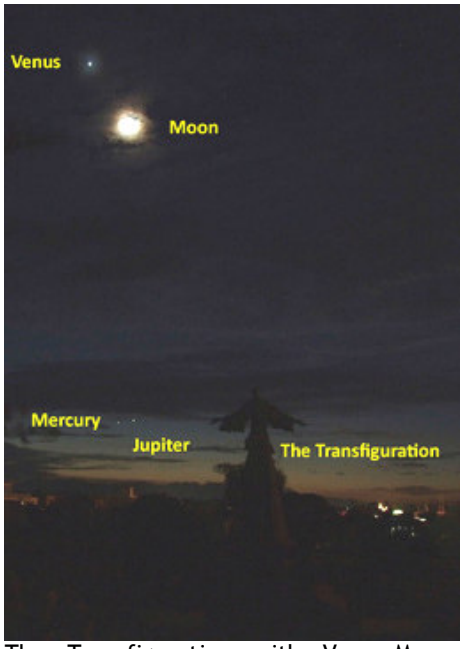


Copernicus, imaged by Brian Davis

Planetary Conjunction, Part 2

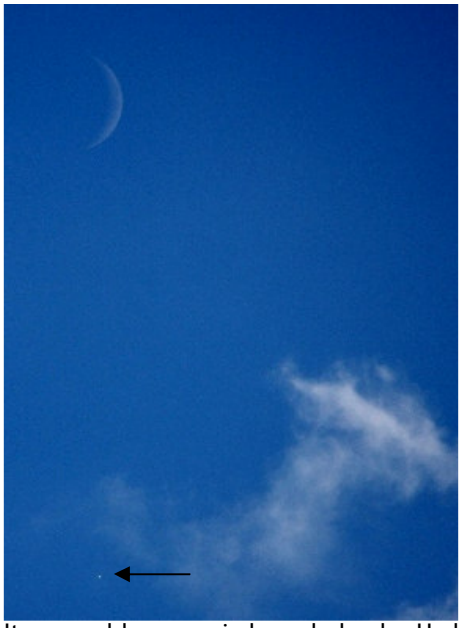


Planets (and the Moon) lined up after sunset on Dec. 30, 2008. This was during a break in the clouds – taken with a hand-held Canon Digital ELPH SD 630 instant digital camera, from the parking lot next to Market! Market! in Taguig. Mercury is the hardest one to see, but shows up in the full frame. – *Jun Lao*



The Transfiguration with Venus-Moon-Mercury-Jupiter on Dec. 31, 2008, labeled in this image, as it was featured in *Spaceweather.com*.

Note the change in position of Mercury relative to Jupiter, and the Moon relative to Venus vs. the image taken by Jun on Dec. 30. – *Mac Libid*

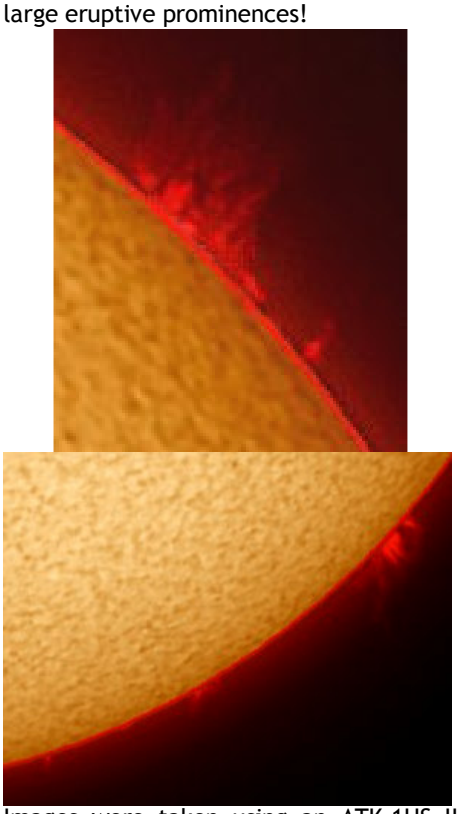


It was cold, very windy and cloudy. Had to wait for breaks in the clouds to take a picture of the Moon and Venus. I used a Canon 40D with 250 mm lens, taken at 2:24 p.m. local time on Dec. 31, 2008.

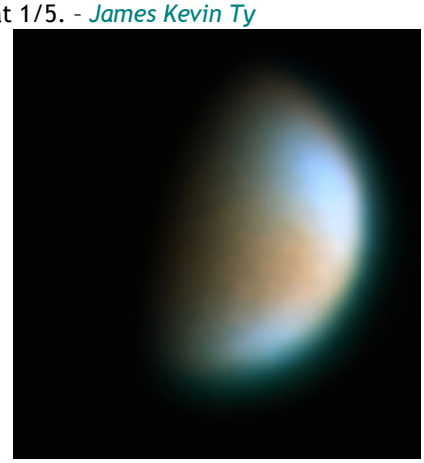
Notice the position of the Moon vs. Venus by the time the U.S. could see the two. The separation would have been even larger had Alex waited for sunset to reveal the two. – *Alex Lim, U.S.*

Sun

Dec. 27. After a long spell of no solar imaging because of bad weather, I was blessed with a relatively sunny sky this morning and I didn't waste time to observe the Sun. I was able to see several large eruptive prominences!



Images were taken using an ATK-1HS II webcam on Coronado PST-Hα and 2x Barlow lens. Seeing was fair that morning at 1/5. – *James Kevin Ty*

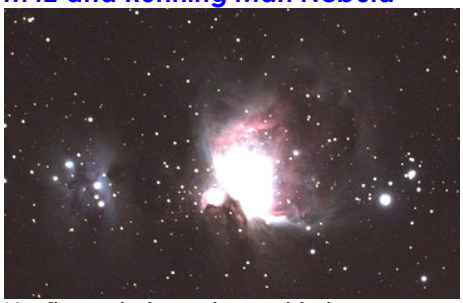


Venus

Though Venus is the closest neighbor planet of Earth and the brightest object in the sky (after the Sun and Moon), it appears virtually featureless to visual observers because it is perpetually covered in a thick soup of carbon dioxide clouds. Color images of the planet show only a smooth light blue orb going through phases like the moon *(⇨ p. 9)*.

However, the use of ultra violet and infra red filters brings out cloud surface details that are otherwise undetectable under normal light. This image of Venus was taken through thin clouds and poor seeing, and was taken on Dec. 8, 2008 with a C-14 f/11 and Dragonfly 2 on a Losmandy Titan mount. Exposure: IR(G)UV - 1.5 minutes with Schuler 780nm IR, Baader 300 - 400nm UV filters. Taken from Stardust Observatory in Baguio. – *John Nassr, Baguio*

M42 and Running Man Nebula



No flats, darks or bias added yet, just a quick stacking of 4 2-min shots and simple processing. I'm not too happy with this - I should have taken advantage of the clear dark site and made my exposures much longer. More of them would have helped too! Anyway, it's a learning experience. I am happy with the wide field image scale of the Megrez 72. This is a cropped shot. – *Joel Munoz*

On Dec 15, 2008, I tried to capture M42 again as target practice. I think I was lucky to have a bit better image than last time. However, there are still imperfections very much obvious in the stars' shape. Anyway, hope I can have a better one next time. – *Vincent Lao*

Heart Nebula

This luminous pillar of star forming hydrogen clouds spanning light years across the firmament is the core of IC 1805, the "Heart Nebula". This image (*upper right*) is in memory of my daughter, Faith. – *John Nassr, Baguio*

Imaged December 6 - 27, 2008 with Astrophysics 5" Starfire f/8 telescope and Atik 16HR camera on Losmandy Titan mount. Exposures: Hα 340 minutes, RGB 180 minutes, using Astronomik Hα, RGB filters. Stardust Observatory, Baguio.

A Galaxy in Aries

The small constellation Aries (the ram) is not specially adorned with famous deep sky objects, and the galaxy NGC 772 is probably the most prominent among the few of them. The galaxy is the brightest galaxy in Aries, glowing at magnitude 10.9.

I decided to visit the region, which is well placed in the sky this time of year and give this irregularly shaped face-on spiral galaxy a try to see how much of its faint photons I could coax with 10 hours of exposure. - *John Nassr, Baguio*

Personal Ad:

C-14 for Sale

My C-14 is up for sale! Here is a list of items and improvements included in the package. Interested parties can contact me privately by cell phone: 0917 5345 226 or through email at: jnassr2000@yahoo. com.

C-14 Package:

1) C-14 optimized for imaging with Compustar GOTO fork mount
2) Losmandy custom built heavy duty low latitude micro-adjustable wedge
3) Homeyer cradle
4) Bob Knobs tool-less secondary mirror adjusters
5) Corrector plate adjusting screws
6) Feather Touch 2" focuser w/ non-vignetting adapter
7) Hutech focus lock
8) Ironwood Observarory C14 flop stoppers
9) Two back plate handles
10) Three cooling fans
11) Thousand Oaks full aperture solar filter
12) Baader f5.9 (f6.5 for C14) doublet Christen design, 44mm circle
13) Lumicon Giant OAG with 80mm non-vignetting f/6 to f/4 adjustable focal reducer
14) Meade f3.3 Focal Reducer
15) 2" Celestron mirror diagonal
16) Expand visual back orifice from 38mm to 43mm
17) Flatter black OTA Bosney paint
18) Balancing counterweights
19) Piggy back mount
20) Shipping from USA (approximate)
21) Tax and duties (approximate)

- *John Nassr, Baguio*

Sky Calendar

Hopefully January will bring with it clearer skies and sweep out the cloudiness caused by condensation of water due to the colder air coming from Siberia.

The Sky

DAY	*HR*	*EVENT*
January 2009		
04	19:56	FIRST QUARTER
04	21:46	Mercury Greatest Elong. 19° E
04	22:32	Earth at Perihelion
08	04:01	Mercury 0.6° N of Pleiades
11	11:26	FULL MOON
12	13:45	Moon 2° S of Pleiades
15	05:11	Venus Greatest Elongation 47° E
18	10:45	LAST QUARTER
20	23:58	Mercury at Inferior Conjunction
21	21:06	Moon 0.2° N of Antares
25	09:28	Mars 1.3° N of Moon
26	15:58	Annular Solar Eclipse (not visible in the Philippines)
26	13:08	Jupiter 0.4° N of Moon
26	15:54	NEW MOON
February 2009		
03	07:12	FIRST QUARTER
04	09:30	Moon 0.2° N of Pleiades
09	02:23	Moon 1.8° S of Beehive star cluster
09	22:37	Penumbral Lunar Eclipse (visible in the Philippines, 16% maximum penumbral mag.)
09	22:49	FULL MOON
10	14:20	Moon 2.8° S of Regulus
14	04:31	Mercury Greatest Elong. 26° W
17	05:36	LAST QUARTER
17	17:37	Mars 0.6° S of Jupiter
18	03:19	Moon 0.4° S of Antares
23	04:06	Mercury 0.5° S of Moon
23	07:40	Jupiter 0.08° S of Moon
23	17:46	Mars 1.9° S of Moon
24	11:08	Mercury 0.6° S of Jupiter
25	09:34	NEW MOON
28	05:33	Venus 1.9° N of Moon

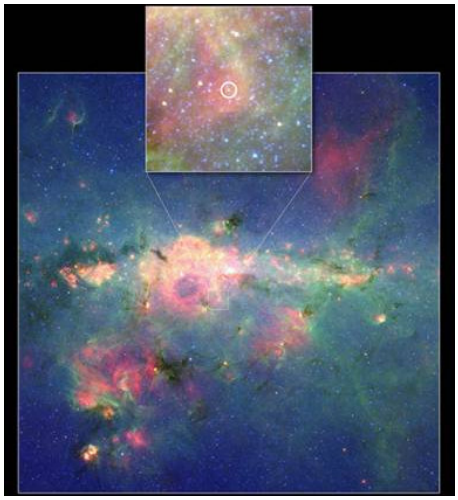
Superstar Hide and Seek

by Dr. Tony Phillips

It sounds like an impossible task: Take a star a hundred times larger in diameter and millions of times more luminous than the Sun and hide it in our own galaxy where the most powerful optical telescopes on Earth cannot find it.

But it is not impossible. In fact, there could be dozens to hundreds of such stars hiding in the Milky Way right now. Furiously burning their inner stores of hydrogen, these hidden superstars are like ticking bombs poised to 'go supernova' at any moment, possibly unleashing powerful gamma-ray bursts. No wonder astronomers are hunting for them. Earlier this year, they found one. "It's called the Peony nebula star," says Lidia Oskinova of Potsdam University in Germany. "It shines like 3.2 million suns and weighs in at about 90 solar masses."

The star lies behind a dense veil of dust near the center of the Milky Way galaxy. Starlight traveling through the dust is attenuated so much that the Peony star, at first glance, looks rather dim and ordinary. Oskinova's team set the record straight using NASA's Spitzer Space Telescope. Clouds of dust can hide a star from visible-light telescopes, but Spitzer is an infrared telescope able to penetrate the dusty gloom.



The "Peony Nebula" star is the second-brightest found in the Milky Way Galaxy, after Eta Carina. The Peony star blazes with the light of 3.2 million suns.

"Using data from Spitzer, along with infrared observations from the ESO's New Technology Telescope in Chile, we calculated the Peony star's true luminosity. In the Milky Way galaxy, it is second only to another known superstar, Eta Carina, which shines like 4.7 million suns." This is just the tip of the iceberg.

Theoretical models of star formation suggest that one Peony-type star is born in our galaxy every 10,000 years. Given that the lifetime of such a star is about one million years, there should be 100 of them in the Milky Way at any given moment. Could that be a hundred deadly gamma-ray bursts waiting to happen? Oskinova is not worried.

"There's no threat to Earth," she believes. "Gamma-ray bursts produce tightly focused jets of radiation and we would be extremely unlucky to be in the way of one. Furthermore, there don't appear to be any supermassive stars within a thousand light years of our planet."

Nevertheless, the hunt continues. Mapping and studying supermassive stars will help researchers understand the inner workings of extreme star formation and, moreover, identify stars on the brink of supernova. One day, astronomers monitoring a Peony-type star could witness with their own eyes one of the biggest explosions since the Big Bang itself.

Now *that* might be hard to hide.

Find out the latest news on discoveries using the Spitzer at:
www.spitzer.caltech.edu

Kids (of all ages) can read about "Lucy's Planet Hunt" using the Spitzer Space Telescope at:
spaceplace.nasa.gov/en/kids/spitzer/lucy

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