

# The Ephemeris

September 2013

Volume 24 Number 9 - The Official Publication of the San Jose Astronomical Association.



## Houge Park August Events

9/1

Solar observing. 2 - 4 p.m.

Fix-It Day 2 - 4 p.m.

9/13

Star party. 8:15 - 11:15 p.m.

9/20

Imaging SIG 7:30-9 p.m.

9/21

6 - 7:30 p.m. Board of Directors Meeting.

7:30 - 8 p.m. Social time.

General Meeting

8 - 10 p.m. Speaker: David Raimondi.

Rocketry in Education

9/27

Beginner Astronomy Class 7 p.m.

Star party. 8 - 11 p.m.

## From the Editor - Mina Wagner

Hello, hello, hello observer brethren.!

The past month has seen many events. The Freemont Peak Observatory Association Star-B-Q. We had a beautiful Perseid meteor shower. A new nova appeared in the constellation Delphinus, and the SJAA has participated in quite a few events with our superb Lundt telescope. The gatherings at Houge Park are always well attended and RCDO (Rancho Canada del Oro) has become THE place to be for many new and aspiring amateurs.

Don't forget CalStar next month! For those of you new to the hobby, CalStar Star Party is a gathering of amateurs from Northern and Southern California October 3, 4 and 5th - three nights in Lake San Antonio with wonderfully dark skies making hunting for dim objects such as the Horsehead Nebula, the Rosette nebula a piece of cake! They will make your jaw drop from their impressive beauty under very dark skies.

## Dr. Robert Armstrong Wins 2012 SJAA Gregory Award

The award is a plaque including the text "In Recognition of Outstanding Contributions of Time and Effort to Others in Amateur Astronomy". It is normally presented only once to a recipient. Dr. Boris Gregory was a professor of French Literature at San Jose State College. He had a lifetime interest in astronomy, and for retirement, was given or bought one of the earliest C-8 telescopes. It was delivered personally by the then-president of Celestron, as he was a long-time friend of Dr. Gregory. After retirement, he taught an introductory astronomy class, part of the Adult Education series.



**Dr. Armstrong speaks on education.**

Dr. Gregory was especially adept at welcoming newcomers. With years of experience, he was often asked for advice and help, and his answer was typically, "Come over and we'll work on it". At board meetings, he was very often the first to say, "I'll look into that".

After his death, SJAA members Bob Finngerhut and Norm Neinchel conceived the Gregory Award. Bob and Norm provided the initial funds, and there was a nomination and a donation (in that order) from Mrs. Gregory a few years later.

In addition, one of our members has sometimes chosen to cover the cost instead of asking to be reimbursed for the engraving.

## SJAA Contacts

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# The Sun's Magnetic Poles Are On The Flip!

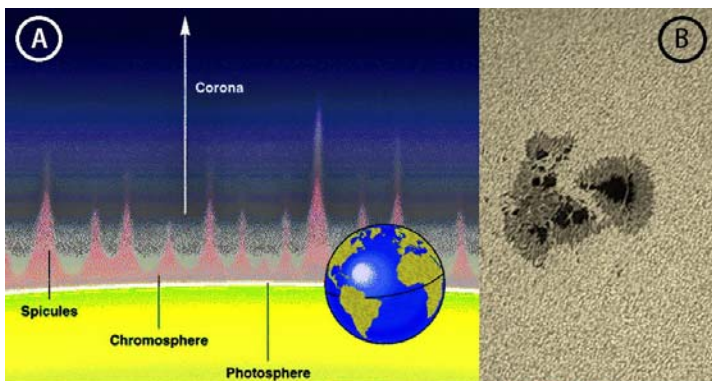
Michael Packer

It happens every 11 years. Our Sun's magnetic poles flip during maximum solar activity. It takes 22 years for the Sun's North Pole to end up where it started. At the time of this writing it is more accurate to note as Stanford's Phil Scherrer does that the north rotating magnetic dynamo, northern hemisphere of the sun, has already flipped while the southern hemisphere fluctuations will soon catch up. We see this in part by huge coronal holes that have developed around the north pole indicating the magnetic field lines are zeroing out and allowing solar particles, the solar wind to, escape. We haven't seen this in the southern hemisphere yet. Over the following five and a half years, the sun's average eruption of magnetic fields yielding plasma storms will die down to a solar minimum, after which it will ramp right back up again. It is anticipated that this flipping process will leave stable measurements of where the poles actually are in limbo into 2014. So solar observing newcomers and veterans will have ample time to relish our nearest star's light show – undeniably the largest in the solar system. Recent SJAA solar parties have seen sunspot groups more frequently, both large and small, and with positions more spread out. In a word, it's been propaedeutic for us to have observed up to this point and the next several months will be, in another word, magnanimous.

August 4th the Sunspot count was 104 (NOAA) and on the 15th of August it was 105 - but observers were looking at entirely different spots.

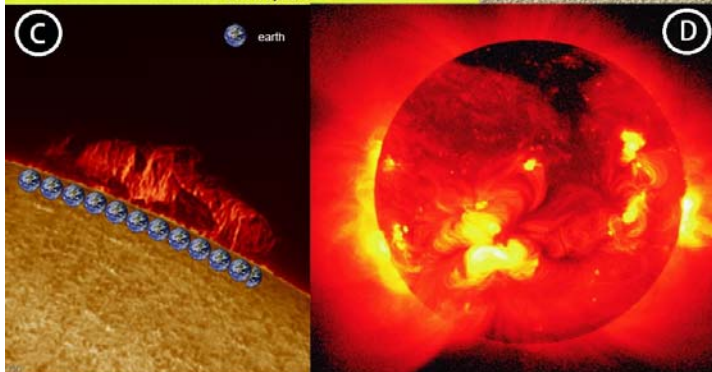


Madhusudan and Carl (Left) chatting next to Carl's cool duel setup during the August SJAA Solar Party. Carl's setup tracks the sun allowing one to up magnification to count sunspots and get very good views of



That's more or less how it has been as the magnetic poles are indeterminate and flipping. These spots or group of spots showed excellent penumbra detail in a standard solar filter which shows the photosphere and what is loosely called the surface of the sun.

In an H-Alpha scope, prominences and filaments (flares in the chromosphere) can be seen above the photosphere. Recently they have been particularly large, 3D like, and exhibiting a vast array of fine structure.



CME's or Coronal Mass Ejections often result from Coronal Holes and take anywhere from 24 to 72 hours to reach Earth. When CME particles meet the Earth's own magnetic field, they can cause another light show called the Northern Lights or Aurora Borealis.

Continued on next page -

## Solar Observing at Houge Park

Here is your opportunity to view the Sun safely, in great detail, with knowledgeable and friendly members of the SJAA. Appropriately scheduled the Sunday every month from 2 to 4 p.m. at Houge Park. If you have solar gear and wish to support this program, contact Michael Packer - see the contacts page at sjaa.net

(A) Relative Atmosphere Layers of Sun (B) Sunspot in Photosphere Layer (C) H-Alpha Flare in Chromosphere (D) Coronal Hole in Corona



Aurora Over Crater Lake National Park, OR by Brad Goldpaint on June 1, 2013

As the nights get longer during this solar maximum, chances to see Aurora, or the Northern Lights even in California will increase. Imagers interested should sign up to get email notifications, Kp Alerts, as noted in the July issue of the Ephemeris.

The SJAA Library is a growing resource that we can all enjoy. The library is open during general meeting as well as during each first Sunday of the month when the Solar Observing and Telescope Fix It session is being held.

If you have any atlases, introductory books on the hobby, observing guides please consider donating them to the library. The club is experiencing continued growth in membership and these types of items will be of great benefit to those starting out.

Thank William Dale Jr., for your recent donation of a 3 volume book set on telescope making and Ed Wong for the book Binocular Stargazing.

We are looking for someone with a passion for books to become our club librarian. Contact Dave at [SJAAMentor@gmail.com](mailto:SJAAMentor@gmail.com)



## The Sawdust Shop

### From Stardust To Sawdust Mark Wagner

Many years ago, a local amateur astronomer began attending star parties and realized soon that he could modify and improve this ten inch Orion Dobsonian. What he didn't know was, where it all would lead.



Craig Colvin is the owner of The Sawdust Shop in Santa Clara, situated by San Jose International Airport. Little did Craig realize that his interest in astronomy would take him from his high-tech career, into this new and unique venture. At left is one of the many projects Craig took on, honing skills that were new to him in woodworking. After building a new mount for his Orion Dob, and adding nice bells-and-whistles to it, he purchased a behemoth 18" Dob from a party in Redding, pictured above, it weighed in at a whopping 365 pounds. The last word in a non-portable scope! As you can see in the image below, Craig designed and executed transforming the beast, into a beautiful lightweight portable design.



I knew Craig was dabbling in woodworking, when one day on the radio I heard an advertisement for The Sawdust Shop, and wondered to myself, who had such a great idea? Word gets around, and I soon put two and two together, and figured out it was our own Craig Colvin, someone who many of us had rubbed elbows with at local observing sites, and the big regional star parties. Then I heard that SJAA member Julien Lecomte was at the shop, building a nice 16" scope. That's all I needed. Soon I was spending afternoons at the shop, learning how to (as Julien would joke at me) cut circles. Julien became quite a master at woodworking. I, on the other hand, am happy to be making parts for telescope there. What really surprised me was the variety of projects that were going on at the shop. Wood turners, guitar makers, people with special one-of type projects. The shop has pretty much whatever you'd want, relative to woodworking.

I recommend you check it out, especially if you are short on equipment and space at home. There are lots of knowledgeable and helpful members, rates are reasonable, and there are plans to meet any budget. You'll probably see me there!

Contact the shop at (408) 992-1004, or check it out online at <http://www.sawdustshop.com>

# Shallow Sky - Mars and Comet ISON

By Akkana Peck

Through September and October, Mars and Comet C/2012 S1 ISON will be within a few degrees of each other, for those willing to stay up (or get up) for early morning dark-sky observing.

The comet won't be very impressive yet -- it's only expected to be 10th magnitude in September -- but such close proximity to Mars makes it easy to find and keep track of. In September, the pair don't rise until about 3:30am, and that won't change much for the next few months. The comet will probably stay below naked eye visibility at least for the next two months, brightening from 11th magnitude in early September to maybe 7th magnitude by Halloween.

As September opens, ISON makes a triangle with Mars and M44, the Beehive cluster, standing about 2 degrees north of the Beehive and about 5 degrees east of Mars. But it closes with Mars as the month progresses: by the end of September you can find the comet about two degrees north of Mars, and by the middle of October they'll be down to only a degree apart (with

ISON brightening to about ninth magnitude).

About that Beehive cluster: On September 7 through 9 Mars goes right through the Beehive, like an angry red wasp among the smaller bees. Should be a nice view even if the comet isn't.

Jupiter, like Mars and the comet, spends September in the morning sky, though it's much higher in the sky than the other two. If you're observing during those hours, it should offer a nice view.

As for evening skies, on September 8th we'll see a nice conjunction of a slim crescent moon and gibbous Venus, with Saturn hanging above and to the left of the pair. Venus and the moon are actually a lot closer earlier in the day: if you can spot them in the early afternoon, say around 2-3 pm (just before they transit around 3:30), you'll find Venus barely a moon's width off the northern horn of the moon's crescent. A nice excuse to do some non-solar astronomy on a Sunday afternoon.

Uranus and Neptune are ideally placed for evening viewing. Uranus is in a sparse patch of sky, in Pisces, and might be unusually tough to find (don't use GOTO, that's cheating!) Neptune is a bit easier but still challenging, in Aquarius off the left horn of Capricornus.

Pluto has the opposite problem, smack in the middle of the Sagittarius Milky Way making a triangle with M25 and M22. It'll be easy to find the area where Pluto sits, but harder to identify which one is the planet. The 14th magnitude speck sits near a magnitude 9.55 star, which might make it a bit easier, but it's not going to be an easy hunt among all the fainter stars there. If you try for it, start as early as you can: it transits around nightfall, at an already low 32 degrees, and only gets lower from there.

Mercury is all but inaccessible this month, never straying far from the sun, and the autumnal equinox is on September 22. Technically the end of summer, but I bet we'll have quite a bit of nice weather left, ... and warm observing nights.

## Meteor Shower Campout, 8/10/13

Santa Teresa County Park

A thank you received from the Park:

"I just wanted to thank you for your participation in the campout. It was a huge success, and we are already planning future events. Tracy, your presentation was excellent, and the knowledge shared by the Gene, Giny, and Ram was enjoyed by all.

I have passed along the discussion we had about holding future star parties at Santa Teresa to my senior Ranger Aniko Millan, and she loves the idea.

Thanks again so much, and I'll be in touch."

Ranger Mike Hampton

More photos and write-up at: [http://www.stpfriends.org/Pueblo-Campout\\_08-10-13/Campout.html](http://www.stpfriends.org/Pueblo-Campout_08-10-13/Campout.html)

Thank you to our SJAA volunteers,!

Organized by Dave Ittner, lead by Tracy Avent and supported by Gene McCreary, Gina McCreary, Ram Krishman and Ketan Gadkari.





**Bill and Susan O'Neil at West Glacier National Park**

Mountains and Lakes. We will need to spend a few extra days here just to do some hiking and exploring! I'm tracking our travels and hope to write an article for Mina. FYI, I finally got a video camera with flash memory vs. tape. Hope I get a chance to use it and bring something to a club meeting. (Editor's note: We hope to have a full write-up on the O'Neil's experience in an upcoming newsletter issue.

### Dr. Christopher McKay - SJAA August Speaker

It was no surprise that the SJAA had a full house at the August meeting, as Dr Christopher McKay gave a dynamic talk on the search for organic materials on Mars via the Mars Rover Curiosity, and a look into possible future missions to Jupiter's moon Encelades. Over 80 attendees enjoyed this engaging presentation. McKay has spoken previously to the SJAA, so we were not surprised at the turnout, he is engaging, entertaining, and imparts a great depth of knowledge. A big thank you to Dr. McKay, and to our own Teruo Utsumi, who continues to fill the SJAA General Meeting calendar with interesting speakers and events!



### Park Service Astro-VIPs!

SJAA Members Bill and Susan O'Neil.

We have been working up in West Glacier National Park since July 28 and are scheduled to leave after Labor Day.

It has been very busy! We start to set up for our Solar program around Noon and run until 4pm . Oh yeah, we have up to 250 visitors a day!! And it is probably 5pm before we get back to our RV for dinner and a nap before we head out again at 8:30pm to set up the Night Program that runs until midnight (and we are often up until 1:30am or 2). I get to run a new Celestron 11" CPC-1100 at night with 2" eyepieces!

See photo of us and our iOptron Solar set-up attached with a glass/mylar filtered Orion refractor and a Coronado Hydrogen-Alpha. The Park bought all this great equipment, BUT I had to find, download and READ the Manuals!

Glacier is a spectacular Park with huge

## Moon Targets for September 13 Houge Park Star Party

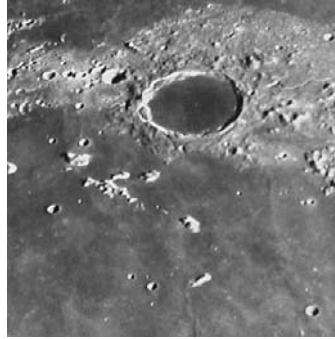
By Mark Wagner

Here are four targets that should be reasonably well placed for observing. It would be helpful to find someone with a Rukl Lunar Atlas, or to have a lunar map for reference. A facsimile of the Rukl Atlas is available on-line at <http://the-moon.wikispaces.com/Rukl+Index+Map>. Lunar images courtesy of the Lunar and Planetary Institute. Descriptions from Rukl.



Copernicus - Rukl pg 31. 9.7N, 20.0 W.

Ring mountain, 93 km in diameter and 3760m deep, walled terraced walls, relatively flat floor with a group of central peaks.



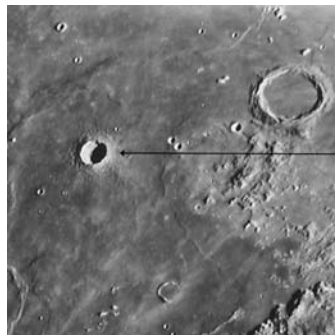
Plato - Rukl pg 3. 51.6N, 9.3W.

Part of the wall with triangular contours is separated from the western edge of the crater by a landslide of rock. There are four small craters between 1.7 and 2.2 km in diameter on the floor of Plato.



Fra Mauro - Rukl pg 42 6.0S, 17.0 W

Remains of a walled terrace whose center is intersected by longitudinal clefts (95 km).



Timocharis - Rukl pg 21 26.7N 13.1W

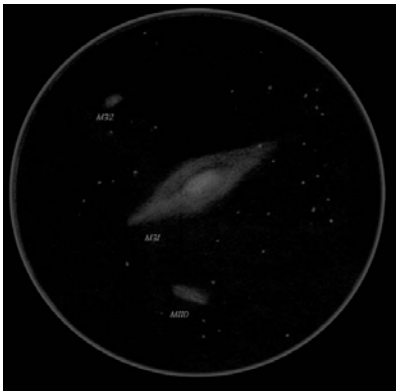
This is a prominent crater with a sharp rim and terraced walls (34 km, 3110 m).

Also the online name of one of the SJAA's most lunar savvy member.

## Deep Sky Targets for September 27 Houge Park Star Party

By Mark Wagner

The moon sets after midnight this Houge Star Party, so here are some deep sky targets. Even in brighter suburban skies, one can glimpse deep sky targets and have satisfying views. Drawings from Astronomy Sketch of the Day: <http://www.asod.info/>



M31 - Galaxy  
Andromeda  
RA 00h 42m 44s  
Dec 41° 16' 08"  
Mag 4.4

Large and detailed. Look for the two dust lanes, cluster of blue supergiant stars, and two satellite galaxies M32 and M110. Naked eye on a good night at Houge Park.



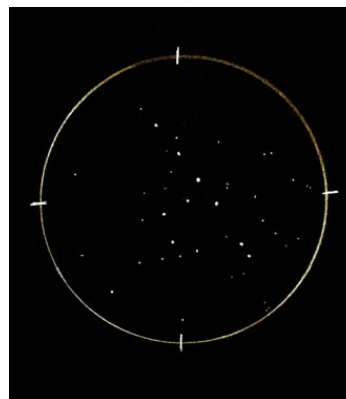
Zeta Aquarii - double star  
Aquarius  
RA 22h 28m 49s  
Dec -00° 01' 12"  
Mag 3.7

This is a tight double star and good challenge for splitting. Both components are white, and nearly the same magnitude. Combined their magnitude is 3.7. It is the center of the "Mercedes symbol".



Double Cluster - open clusters  
Perseus  
RA 02h 19m 04s  
Dec +57° 08' 06"  
Mag 5.3

Spectacular sight even in bright suburban skies. Two bright clusters in the eyepiece, and in next to each other in space as well. Look for the red star between, and the small arc of stars in the center of once cluster. Naked eye from Houge.



Coathanger - open cluster  
Vulpecula  
RA 19h 26m 13s  
Dec +20° 05' 52"  
Mag 5.6

This is a fun target, and is possible naked-eye from Houge Park due to its compactness. In binoculars or a wide-field eyepiece, the shape of a Coathanger is unmistakable. Also cataloged as CR 399.

## A New Star In The Sky

Michael Packer

Around the world, amateur astronomers are turning their telescopes toward minor constellation Delphinus where a new star has appeared. Koichi Itagaki of Yamagata, Japan, discovered the nova on August 14th. At the time, the stellar brightness was +6.3. Since then it has continued to brighten to magnitude 4.5, naked-eye visibility, becoming one of the top 35 brightest novae recorded. John Chumack photographed the surging nova on August 15th from the John Bryan State Park in Yellow Springs, Ohio:

[http://spaceweather.com/gallery/indiv\\_upload.php?upload\\_id=85581](http://spaceweather.com/gallery/indiv_upload.php?upload_id=85581) .

Did you see it?

## New Magazine Discount

The SJAA board of directors has elected to begin offering discount subscriptions to Astronomy Technology Today, with club memberships. The SJAA now offers this new discount, along with discounts to Sky and Telescope and Astronomy magazines!

See Astronomy Technology Today at:

<http://www.astronomytechnologytoday.com/>

## Slide and Equipment Night

While the name is somewhat of an anachronism, the purpose remains as compelling as ever.

Usually held during our September meeting, this year we move to October 19, at our General Meeting. Watch the web-page for any updates, but this is a great time to share with your fellow enthusiasts interesting projects and accomplishments you've achieved over the past year. This event can be quite compelling! Your participation makes it so.

## Fall Swap Approaches

Time to look over your stash of astro-gear, and decide what you have that you don't need, and what you need that you don't have! The SJAA's annual Fall Swap is scheduled for Sunday, November 17. As is true in your side-view mirror, this is closer than it appears! Start getting ready now!

## Houge Star Party

Lee Hoglan

Due to the mild clear weather, the August 16th star party was pretty heavily attended. There were a lot of faces and telescopes which were new to me. I counted 14 telescopes of various sizes and shapes as well as binoculars on tripods. The experienced experts had their equipment set up in no time while several newbies struggled to get their telescopes polar aligned. I was pleased to see Jack Zeiders and his revamped 17" superdob. He had it pointed at the moon. I noticed several people stagger away from the big Dob after being temporarily dazzled by the moon's brightness. I guess Jack needs a filter on that beast.

Saturn whose rings are now at a pretty good viewing angle was a popular object and made an early appearance, but by 10:00 o'clock it was getting low and showing the effects of the atmosphere.

The moon was another crowd favorite, but at waxing gibbous made it difficult to see the summer milky way and the Sagittarius starclouds. The big moon also made it difficult to get a naked eye view of the "star of the show" which was the recently discovered NOVA in Delphinus. The NOVA which had brightened to mag 4.4 was visible to some with the naked eye, but most had to resort to binoculars or the 2 telescopes which had it centered in the field of view. I was pleased to get to see it.

After being hot all day, the late evening took on a bit of a chill so I decided to leave the "oohs and ahs" of the delighted observers and head home. Another successful Houge Park star party where a good time was had by all.

## New SJAA Web Site

At long last, the SJAA has moved forward with a web-site using a Content Management System. This will allow for much greater flexibility in allowing members to participate in probably the most visible aspect of the club - our web presence.

Please look over the new site, released in the best tradition of Silicon Valley dot-ventures - as a Beta test. Look it over, and feedback anything you find broken or confusing. Your help and ideas are very welcome. A big thank you to our member Frank Geefay for his great help converting over our existing site to this new format!

## Imaging SIG continues!

Harsh Kaushikkar has scheduled another meeting of the SJAA's Imaging Special Interest Group for Friday night, the 20th of September. This is an excellent way to get started in this unique and engrossing aspect of our great hobby!

## Another cash donation

For the second consecutive General Meeting, a new member expressed their pleasure with the work the SJAA is doing, and made a \$100 cash donation to the club. Thank you to this generous anonymous donor, you know who you are, and the SJAA appreciates your wonderful support!

## Binocular Stargazing

Ed Wong

We had a very successful Binocular Stargazing program this month at RCDO. We had about 25 people come out. Most people who attended brought binoculars. Over half of them were new to astronomy. Dave taught on the learning the night sky and I taught on binocular selection for astronomy. We viewed objects such as Mel 111, M7, M8, M13, M24, M39, Mu Cephei. Overall people really enjoyed the time and were excited about seeing the Milky Way

## SJAA Fix-It Program

Ed Wong

The Fix-It session this past month was very well attended this past month! I lost track of how many people we actually served because we had so many people stopped in for help.

I estimate we had at least 8-10 people come in for help. I helped one gentleman with collimation on 2 of his Newtonian scopes. I helped a family assemble their new Newtonian scope and showed them how to use it.

Another gentleman brought in a RC scope on an Sirius EQ mount that needed help learning how to set it up and how to use it. Phil and Dave were busy with other folks most of the afternoon too.

Dave and I were able to collimate the loaner scopes that were brought back towards the end of the session.

San Jose Astronomical Association  
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San Jose, CA 95159-8243

## San Jose Astronomical Association Membership Form

P.O.Box 28243 San Jose, CA 95159-8243

**New**  **Renewal** (Name only if no corrections)

- Membership Type:**
- Regular — \$20
- Regular with Sky & Telescope — \$53
- Junior (under 18) — \$10
- Junior with Sky & Telescope — \$43

Subscribing to Sky & Telescope magazine through the SJAA saves you \$5 off the regular rate. (S&T will not accept multi-year subscriptions through the club program. Allow 2 months lead time.)

**I prefer to get the Ephemeris newsletter in print form (Add \$10 to the dues listed on the left). The newsletter is always available online at <http://ephemeris.sjaa.net>.**

Questions? Send e-mail  
[sjaamemberships@gmail.com](mailto:sjaamemberships@gmail.com)

Bring this form to any SJAA Meeting or send to the address (above). Make checks payable to "SJAA", or join/renew at <http://www.sjaa.net>

**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City/ST/Zip:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_