

**APPLICATION FOR  
MEMBERSHIP IN THE  
COCONINO ASTRONOMICAL SOCIETY**

Name(s) \_\_\_\_\_

\_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Zip \_\_\_\_\_ Phone # \_\_\_\_\_

E-mail \_\_\_\_\_

I hereby submit my application for:

\_\_\_\_\_ Regular Membership(s) @ \$20.00/year

\_\_\_\_\_ Household (two adults)  
Membership(s) @ \$30.00/year

\_\_\_\_\_ Junior (under 18 or college student)  
Membership(s) @ \$10.00/year

\_\_\_\_\_ Sponsoring Membership(s) @ \$72/year

Enclosed is a check for the total of \$ \_\_\_\_\_  
made out to:

**Coconino Astronomical Society**

c/o Andy Barnett, Treasurer  
11947 N. Onika Lane  
Flagstaff, AZ 86004

\_\_\_\_\_ Sky & Telescope Magazine (Club Rate)  
Subscription(s) @ \$32.95/year  
Indicate new [ ] or renewal [ ]  
(Please enclose separate check made  
out to Sky Publishing Corporation.)

Signature \_\_\_\_\_

**Coconino  
Astronomical  
Society - Mission**

The CAS's purpose is to increase the appreciation and knowledge of the science of Astronomy of its membership and within the community. It does this through presentations at meetings, and by hosting star parties and other activities that promote astronomical education.

The club encourages mentoring, and fosters relationships within the Society. CAS also maintains strong relationships with Lowell Observatory, and other Flagstaff area scientific and educational organizations. CAS is a not-for profit 501(c)3 corporation consisting of dedicated amateur astronomers committed to preserving the night sky and promoting astronomy to the entire community, regardless of age.



**CAS Dark Sky Site  
North of Williams**

- Private 2 acre fenced in property
- Pads are available for portable telescopes
- Cabins/Warm Rooms for Observer comfort
- C-14 available for viewing with operator
- Access is free to all CAS members and guests



**Coconino  
Astronomical  
Society**

**Amateur Astronomers and Astronomy  
Enthusiasts in Northern Arizona**



Comet Pan Starrs with setting Crescent Moon  
taken on March 12, 2013 from Lake Mary  
by CAS member Padraig Houlahan

**2014  
CAS Brochure and  
Meeting Schedule**



**CONTACT INFORMATION**

[www.coconinoastro.org](http://www.coconinoastro.org)  
info@coconinoastro.org

Get there with your Smart Phone



## 2014 Meeting & Program Schedule

CAS Monthly Meetings and Astronomical Programs are held the Saturday closest to the First Quarter Moon at the Lowell Observatory Steele Visitor Center Auditorium (6:45 pm - 8:00 pm., unless otherwise noted) followed by refreshments, informal discussion, and observing. They are open free to the public.

**January 11** Dr. Lawrence Wasserman, Lowell Obs.

### “Things That Go Bump in the Night”

Celestial bodies sometimes approach one another. When they do, one may partially pass in front of, or transit, the other, cast a shadow on, or eclipse, the second body, or even completely cover, or occult, the latter. These events can teach us quite a bit about the bodies involved.

**February 8** Dr. Kathy Eastwood, NAU

### “A Short History of Modern Cosmology”

As recently as 1920, astronomers thought that the entire universe consisted of our Milky Way Galaxy. In her presentation Dr. Eastwood will display and describe the observations and theory leading up to the latest ideas and developments in cosmology, such as dark energy.

**March 8** Mr. Kevin Mullins, CCC

### “Glacial Velocities with Satellite Imagery”

Mr. Mullins has served on the Astrogeology Team of the USGS here in Flagstaff. He will be discussing his early work in tracking glacial velocities with Baerbel Lucchitta, how it has opened doors for other types of research, what that research has discovered in the past decade, and the implications with respect to current climate changes.

**April 5** Dr. Ellyne Kinney-Spano, UA, JPL

### “Making Image Mosaics of Small Bodies”

The OSIRIS-REx mission is the third planetary science mission selected for development in NASA's New Frontiers Program. Member, and Imaging scientist, Dr. Kinney-Spano, will discuss the unique challenges and techniques required to create image mosaics, to globally map non-spherical celestial objects.

**May 10** Dr. Stephen Levine, Lowell Obs.

### “The Discovery Channel Telescope”

Lowell's new DCT will be applied to a range of research areas including a survey of Kuiper Belt objects, studies of comet properties, investigations of small galactic structure, and stellar masses. Commissioning Scientist, Dr. Levine has had the primary responsibility for overseeing the 4.3 meter telescope through its construction stages to full scientific operation.

**June 28, 6:00 pm** Dave Frisk's Observatory, Williams

### Annual CAS Picnic and Observing Meeting

Open to CAS membership and invited friends

**July 5** J.D. Maddy, Astronomers of Verde Valley

### “Hyperstar and Digital SLR Imaging”

JD Maddy, President of the Astronomers of Verde Valley, will review basic DSLR astrophotography techniques. Using a telescope, a computer, and a digital SLR camera, he will discuss and illustrate how amateurs can take fantastic photos of nebulae and other celestial objects. JD will also show how to use an attachment with his camera to take long exposure images.

**August 2** Emily Mailhot, and Alan Midkiff,  
Star View Hill Ed. Center, NJ

### “Asteroids and their Moons”

This presentation is an overview of asteroids, with an emphasis on binary asteroids, and why they are important. Their activities supporting MIT research is described, including data collections and reduction methods, and the instrumentation and software used in the data analysis.

**September 6** Dr. Lisa Prato, Lowell Obs

### “Finding the Youngest Exoplanets”

To unequivocally understand the process of planet formation, astronomers need to study young planets, newly formed or still in the process of formation. I will describe my team's survey of young stars in search of young planets and will provide an update on our latest results..

**October 4** Dr. Greg Vaughan, USGS

### “Studying Active Volcanoes using Remote Sensing Technology”

Dr. Vaughan from the USGS Astrogeology Science Center will speak about how scientists use satellite remote sensing tools to study and monitor active volcanoes. He will discuss cutting edge aerospace remote sensing technology, such as thermal infrared imaging, its uses, limitations, and future. The discussion will include how we study volcanoes on Io, as well as Earth.

**November 8**

### CAS Member Presentations

Each year many CAS members are active in the pursuit of their avocation, Amateur Astronomy. At this meeting 4-6 members will present 10-15 minute overviews of their astronomical activities and achievements they were involved in during 2014, such as astro-photography, observatory construction, types of equipment used, astronomy projects they have done, etc.

**December 6, 5:00 pm** Location to be determined

### Annual CAS Holiday Party

Open to CAS membership and invited friends

**Club Observing Nights:** Are scheduled monthly on Saturday evenings nearest New Moon.

**Location:** CAS Dark Sky Site in Williams – See our website for details - [www.coconinoastro.org](http://www.coconinoastro.org)

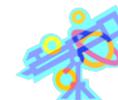
## CAS Programs & Speakers

Located in Flagstaff, AZ, the CAS draws expert program speakers from many sources, including Lowell Observatory, the U.S. Geological Survey, the Naval Observatory, Northern Arizona University, Coconino Community College, other Arizona astronomy clubs, as well as from our own knowledgeable membership.

## Heritage Square Public Observing

On the Friday evening closest to First Quarter Moon, April through October, CAS hosts its monthly community outreach program to educate and promote interest in Astronomy to the general public. CAS members set up their telescopes at Heritage Square, in Flagstaff, and invite the public to observe the Moon and other visible night sky objects.

The general public is always cordially invited to attend any of our public presentations free of charge.



## CAS Membership

WE WELCOME ANYONE  
INTERESTED IN ASTRONOMY

Membership in CAS is open to anyone interested in learning more about astronomy and telescopic observing. Membership entitles you to attend, and be involved with, the monthly general meetings, as well as, special club events, observing sessions, and star parties, at our Dark Sky Observing Site. Annual events, and monthly meeting reminder postcards with current happenings are mailed to all Members.

Besides “Regular Membership,” CAS has available “Household Memberships” for two adults from the same address, “Junior Memberships” for those under 18, or are college students, as well as “Sponsoring Memberships” for those wishing to help support the Society (a portion of which may be tax-deductible.)

If you are interested in becoming a member use the brochure form, or the online form, on our website. If you have any questions please email us at: [info@coconinoastro.org](mailto:info@coconinoastro.org), or contact Andy Barnett, CAS Treasurer, at (928) 527-1199 (evenings).