



East Valley Astronomy Club

February 2004

www.eastvalleyastronomy.org

Scottsdale, Arizona

February 2004



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From the Desk of the President

by

**Peter Argenziano
2004 EVAC President**

Volunteers bringing the Solar System to the public

This is the charter of the Solar System Ambassadors Program, which is sponsored by the Jet Propulsion Laboratory (JPL), an operating division of the California Institute of Technology (Caltech) and a lead research and development center for the National Aeronautics and Space Administration (NASA).

The Solar System Ambassadors (SSA) Program builds on the outstanding efforts of the Galileo mission (1997). Because of the success of the original Galileo Ambassadors program, JPL missions exploring Jupiter, Saturn, Mars, Asteroids, Comets, Earth, the Sun and the Universe now come together to expand the program's scope to the Solar System and beyond. Ambassadors are space enthusiasts from various walks of life who are interested in providing greater service and inspiration to the community at large.

I have been selected to serve as a Solar System Ambassador for 2004. As such, I will be organizing several events throughout the year; events in which the general public and EVAC may participate to revel in the wonders of our Solar System. While some events may include a discussion or a multimedia presentation, I plan on anchoring the events with good old telescopic observations as I believe most folks genuinely enjoy looking through the eyepiece. Don't we all.

While a Mars event would seem apropos given current activities with the Mars Exploration Rover (MER) mission, the fact is that the Red Planet is too far away now to be worthy telescopic quarry. Besides, the data coming back to Earth is better suited to a more dynamic delivery vehicle like NASA TV or the Web.

My first event, which is in the logistical planning stages, will focus on Saturn and the Cassini-Huygens Mission. The mission was launched on October 15, 1997, and is truly an international effort: three space agencies and 17 nations have contributed. The mission, named in honor of the 17th century astronomer who discovered gaps in Saturn's rings, will be the first spacecraft to orbit Saturn. The NASA orbiter will study the intriguing features of Saturn's system of rings and moons and also deliver the European Space Agency's Huygens Probe into the atmosphere of Saturn's moon Titan.

The Cassini orbiter will conduct a four-year tour of Saturn and its moons, making 75 orbits about the planet and 45 flybys of Titan. The science objectives of the mission include:

- Determining the temperature field, cloud properties, and composition of the atmosphere.
- Measuring the global wind field, including wave and eddy components, and observing synoptic cloud features and processes.
- Inferring the internal structure and rotation of the deep atmosphere.
- Study of the diurnal variations and magnetic control of the ionosphere.
- Provide observational constraints (gas composition, isotope ratios, heat flux) on scenarios for the formation and evolution of Saturn.
- Investigate the sources and the morphology of Saturn's lightning.

Saturn is the most distant of the five planets known to ancient stargazers. In 1610, Italian Galileo Galilei was the first astronomer to gaze at Saturn through a telescope. To his surprise, he saw a pair of objects on either side of the planet, which he later drew as 'cup handles' attached to the planet on each side. In 1659, Dutch astronomer Christiaan Huygens announced that this was a ring encircling the planet.

Like Jupiter, Uranus, and Neptune, Saturn is a gas giant. It is made mostly of hydrogen (94%) and helium (6%), with traces of ammonia, methane, ethane, phosphine, acetylene, methylacetylene, and propane. Its volume is 755 times greater than Earth's. Winds in the upper atmosphere reach 500 meters per second in the equatorial region. In contrast, the strongest hurricane-force winds on Earth top out at about 110 meters per second. These super-fast winds, combined with heat rising from within the planet's interior, cause the yellow and gold bands visible in its atmosphere. Saturn has the second fastest winds in the Solar System, exceeded only by Neptune.

Saturn lies at an average distance from the Sun of almost 886 million miles. Its equatorial radius is 9 times that of Earth and its surface area is 85 times larger. The surface gravity at its equator is 23.64 feet per square second, so if you weigh 100 pounds on Earth, you would only weigh 74 pounds on Saturn. A 'day' on Saturn is about 10 hours; a Saturn 'year' is equal to 29 Earth years (10,775 Earth days).

Some upcoming milestones in the early stages of the mission include:

- Phoebe encounter - 11 June 2004 (closest approach is 1,243 miles)
- Saturn Orbit Insertion - 1 July 2004
- Huygens Probe Release - 25 December 2004
- Huygens Probe Mission - 14 January 2005

The most recent mission telemetry was acquired from the

Goldstone tracking station on Tuesday, January 20. The Cassini spacecraft is in an excellent state of health and is operating normally. Information on the present position and speed of the Cassini spacecraft may be found on the 'Present Position' web page located at:

<http://saturn.jpl.nasa.gov/operations/present-position.cfm> .

A major milestone has recently been achieved: the integration of the entire four-year tour of the Saturn system. This effort integrated and resolved conflicts for all the requested science and engineering activities, defined and integrated the detailed observation types or observing campaigns, and developed cooperative/synergistic observation sets and observing campaigns, including the durations, data volume estimates, and pointing requirements of all those activities. Kudos to all the science and flight team members that supported these integration teams over the two and a half year span of this activity.

I hope my brief introduction has served to kindle your interest in this mission in particular, and in the SSA program in general. Saturn will be well placed in the evening sky for a public event through mid-March. Event details will be announced shortly.

Keep looking up!

If it's clear...
by
Fulton Wright, Jr.
Prescott Astronomy Club
for February 2004

Shamelessly stolen information from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find info.

When gauging distances, remember that the Moon is 1/2 a degree or 30 arc minutes in diameter. All times are Mountain Standard Time unless otherwise noted.

On Wednesday, February 4, about 10:30 PM, you can see an asteroid near a couple of stars. With a large (12 inch) telescope look 65 degrees above the east horizon for Rho Cancr (mag 6) the star on the left, 53 Cancr (mag 6) the star in the center, and 373 Devosa (mag 11) the asteroid on the right. Each step along this line is 5 arcminutes. I have some good news and some bad news. The good news is that because of the close alignment of the stars, you should be able to detect motion of the asteroid over a half hour period. The bad news is that the almost full moon is only 7 degrees away making it hard to find the stars and see the dim asteroid. Good luck.

On Thursday, February 12, about 7:30 PM, you can see a comet. With binoculars look 30 degrees above the west horizon for Algenib (Gamma Pegasi, mag 3, the left most star in the great square of Pegasus). Half a degree to the left will be comet C/2002 T7 (LINEAR). It should be a magnitude 7 fuzball. The comet will be close to this star for a day or two on each side of this date and visible for a week or two, higher than the star early and lower late.

On Sunday, February 15, about 9:00 PM, you can see 3 of Jupiter's moons close together. With a small (3 inch) telescope look 15 degrees above the east horizon for Jupiter (mag -2). Europa, Io, and Callisto will be lined up below the planet.

On Thursday, February 19, about 10:15 PM you can see an asteroid near a star. With a medium (6 inch) telescope look 70 degrees above the southwest horizon for 41 Geminorum (mag 6). The star SAO 96384 (mag 7.5) is 14 arc MINUTES down and to the left. The asteroid 6 Hebe (mag 9.5) is 14 arc SECONDS down and to the left from there. Because the asteroid is so close to the star, you should be able to detect its motion within half an hour.

On Sunday, February 22, in the late evening you can see 3 of Jupiter's moons close together. With a small (3 inch) telescope look 45 degrees above the southeast horizon for Jupiter (mag -2). About 10:45 PM Callisto, Europa, and Io will form a short straight line below the planet. By midnight they form a small equilateral triangle.

On Monday, February 23, about 7 PM you can see the crescent moon near Venus. With your unaided eye look 30 degrees above the west horizon for the pair.

On Wednesday, February 25, about 7 PM you can see the crescent moon near Mars. With binoculars look 60 degrees above the southwest horizon for the pair.

On Thursday, February 26, after 10 PM you can see several events with Jupiter's moons. With a medium (6 inch) telescope look 40 degrees above the east horizon for Jupiter. Io and its shadow are departing, Europa and its shadow are entering, all within about 15 minutes. Here is the schedule of events: 10:23 PM Europa's shadow leaves Jupiter 10:28 PM Io's shadow falls on Jupiter 10:37 PM Io moves in front of Jupiter 10:39 PM Europa moves from in front of Jupiter

Schedule of Events - February & March
East Valley Astronomy Club
by
Howard Israel

Date	Event	Location	Notes
		February Events	
Sat. Feb. 7	Adopt-A-Highway Clean-up	Florence Junction	8:00 AM -- New meeting place!
Sat. Feb. 7	Beginners Lab	Dave Coshows' home	7:00 PM, Setup
Wed. Feb. 11	General Meeting	SCC - PS 172	7 :30 PM, Fr. Bill Stoeger, ☐Cosmology, Multiverse
Fri. Feb. 13	Public Star Party	Gilbert Library	7:00 PM, Setup
Sat. Feb. 21	Deep Sky Star Party	Vekol Road Site	Sunset: 6:18 PM
Sat. Feb. 28	Local Star Party	Boyce Thompson Arboretum	Sunset: 6:24 PM
		March Events	
Wed. Mar. 10	General Meeting	SCC-PS 172	Fr. Chris Corbally, Know Thy ☐Neighbors - Nearby Stars
Fri. Mar. 12	Public Star Party	Gilbert Library	7:00 PM, Setup
Sat. Mar. 13	Beginners Lab	Dave Coshows' home	7:00 PM, Setup
Sat. Mar. 13	Local Star Party	Boyce Thompson Arboretum	Sunset: 6:35 PM
Sat. Mar. 20	Messier Marathon	Farnsworth Ranch, Arizona City	Sunset: 6:40 PM
Sat. Mar. 27	Steward Mirror Lab Tour	U of A, Tucson	Tentative



Mr. Telescope

Uptown Plaza Shopping Center
 20 E. Camelback Road
 Phoenix AZ 85012
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Spring Adopt-A-Highway Cleanup

By Martin Bonadio

It's time again to have some fun picking up trash! We have scheduled our semiannual cleanup of the EVAC Mile for **Saturday, February 7th starting at 8:00 AM**. Our task is to pick up trash from the shoulder of the highway to the right-of-way fence (State crews are responsible for the median dividing the highway). This is a reminder for all of you who signed the sheet at the January meeting. But, if you missed the sign up sheet, you can still call Martin and let him know you want to attend. For example, with 10 volunteers, we can probably finish by 10:30am. We will meet near Florence Junction (Intersection of Highway 60 and 79) on the south side of US-60 part-way through our mile. Our mile begins about 2 miles before you reach the inter-change. A sign posted with "EVAC" on it marks its beginning. And as you continue along US-60, you will approach a large highway spanning amber electronic traffic alert sign. To the right you will see a large dirt area near the opening to a fenced property. We will meet there.

Your reward for helping will be a **free club-sponsored** lunch at the Village Inn in Apache Junction (our own Randy Peterson is the manager) following the cleanup! These cleanups have always been great fun. On every one someone manages to find a very *interesting* "treasure"! So, come out, get some exercise, and get to know each other in daylight. Also, the conversations at lunch revolve around telescopes, telescopes, and more telescopes. And of course, you can keep any of the "treasures" you find, if you *really* want to.

Hopefully, we'll have some first-timers. They need to know:

- Participants must be at least 12 years old and work in groups, facing oncoming traffic. Dress appropriately; long pants, sturdy shoes/boots, long sleeves and/or sun block, hat, and heavy GLOVES. Safety vests to be worn will be

provided. Please bring some water too, as you'll work up a sweat.

- Pick up bags and other litter with caution -- it could contain hazardous material, or be hiding a snake, etc.
- A stick with a nail or hook is recommended to use instead of your hands, while a large bucket cuts down trips to the trash bags.
- Few large objects are found out there, but if lifting one, keep your back as straight as possible, the object close to your body, and let your legs and arms do the work.
- Don't let anything surprise you -- our fellow citizens dispose of everything imaginable along our roadsides. If anything looks odd or is really heavy, leave it alone! Note its location and we'll notify the State about it afterwards.
- When a trash bag becomes full, place it on the very edge of the pavement, not in the pullout lane.

As with any government program, there are a few requirements to complete before starting. One is a briefing from the cleanup coordinator, Martin, immediately preceding the cleanup. The second is to sign the usual waiver for the State saying participants won't sue if something happens. The forms are kept on file so one signature covers you for all future cleanups.

If you want to help or have questions, contact Martin.
phone: 480-570-7163
email: mbonadio@cox.net
Thank you.

EVAC Meeting Minutes
January 14, 2003
by Diane Cook, Secretary

President Peter Argenziano opened the meeting by welcoming EVAC members and guests. Howard Israel, Events Coordinator made several announcements about upcoming volunteer Star parties and a Science Fair at local schools. Arizona Science Center is also looking for volunteers. Visitors were asked to introduce themselves, followed by recognition of Tom Polakis for his latest Orion article.

Gene Lucas presented a series of color photos and images of Mars that included color goggles for viewing. Chris Schur's equipment demonstration highlighted his custom designed computer controlled robot camera, "Aurora Cam."

Our guest speaker, Dr. Dave Williams, ASU Planetary Geology Faculty Research Associate, presented the history of Mars' explorers (orbiters) and discussed the recent Mars rovers, Spirit and Opportunity. Dr. Williams displayed a panoramic photo (1/12/04) as his backdrop for an informative update of Mars' explorers and their missions, research, discoveries, and future Rover missions.

About our February Speaker
William Stoeger
Vatican Observatory Research Group

Dr. Stoeger is a Jesuit priest widely known for his work in theology and science. He is Adjunct Associate Professor of Astronomy at the University of Arizona, and Staff Astronomer for the Vatican observatory. Stoeger's recent research has focused on projects in theoretical cosmology, with an eye on building more adequate connections between theory and cosmologically relevant astronomical observations and observations of the microwave background radiation.

February Classified Ads.

Free Classified Ads (Wanted & For Sale)

Noncommercial advertisements for Astronomical equipment, books, computers, or software — Wanted or For Sale — will be accepted from current EVAC members.

Ads will be run on a "space available basis" and may be edited slightly to best fit the space. Ads should consist of a brief text description and must include a current member name and an evening phone number. You may include your email address if you wish. Ads will be run until canceled or until they have appeared in three issues of the newsletter (whichever occurs first). **Ads are "tagged" with the first issue in which they appeared.**

Ads can be emailed to: john-cathy@cox.net
(this address may change in the future)
or send by U.S. Mail to:

EVAC PO Box 2202
Mesa, AZ 85214

Please mark the subject line of the email or the envelope, "EVAC Newsletter Ad."

For Sale (January)

Dinkmeier Binoviewer with 3 pr. Plossls, 15mm,25mm,32mm.
\$500

Harold Godley 480-985-0009
harold.godley@gte.net

For Sale (January)

I have the following
telescope/accessories set for sale:

11" Celestron Nexstar GPS w/XLT coatings, bought 9/2003.
Need to sell quickly due to emergency family medical problems.

\$3500 price includes scope w/ tripod, still under warranty, plus these extras:

In a locking padded custom aluminum-sided Case:

- Celestron anti-vibration pads
- 2" Meade Super Plossl 56mm
- TeleVue Big Barlow 2" 2X
- TeleView Panoptic 2" 35mm
- Celestron 1.25" 4-pc. Filter set #94118
- Celestron 1.25" Filter #94118-05(#21)
- Celestron 1.25" Filter 94118-03(#12)
- Meade 1.25" Nebular O-III Filter #908
- 1.25" Contrast Booster Filter #2458360
- Meade 1.25" 8mm-24mm Zoom
- Celestron 1.25" 2X Barlow
- Meade 1.25" Variable Polarizing System
- Celestron 1.25" E-Lux 40mm Plossl
- Celestron 1.25" 35mm Ultima
- Set of five Celestron X-Cel 1.25 eyepieces:
2.3mm, 5mm, 8mm, 12.5mm, & 10mm
- Meade Electronic 1.25/2" Focuser

Meade Focal Reducer

Meade computer USB-PC Serial port adapter
custom made adapter for Mac i-Sight FireWire webcam
(includes i-Sight webcam).

In another Celestron locking padded aluminum-sided case:

- Celestron 5-pc 1.25 Plossl eyepieces
(4mm, 6mm, 9mm, 15mm, 32mm)
- 2x1.25" Barlow, and 7-piece filter set.
(this is the add-on set you got for
\$99 when purchasing the above scope)

I won't separate or dicker on the price...any of you who know, this is a smokin' deal for this amount of eyepieces, accessories, and the most desirable telescope on the market. It all cost me much more than the asking price. The 1st person with \$3500 cash/check takes it all

Please call Zach Hilgers
@ 480-980-0717 to get any more info

or email me:
noblehousefunding@cox.net
drz13@earthlink.net

For Sale (February)

Orion StarMax 127mm 5" Maksutov-Cassegrain 1540mm focal length f/12.1 with 25mm eyepiece, 6x26 finder scope and telescope carrying case. □Dual axis drive that's never been used. □With AstroView equatorial mount. □ don't want to deal with shipping, so for sale in the Phoenix Area only. □ \$400.00

Call Damion Pauksta at 602-240-5421 □
damionbow@aol.com

□

For Sale (February)

Celestron NexStar 114GT Mount

Mount only - no OTA. Includes GoTo hand controller with 4,000 object database, tripod and manual. Adapters for attaching small refractors are commercially available. One year old. \$75.00

Also, Televue 12mm Nagler (Type 2). Fits 2" or 1.25" focuser. \$150.00

Contact Sam or Anne
Sam&Anne@pobox.com
480-924-5981

2004: A Year of Sky Events

by Joe Orman

Photo Pages: <http://pages.prodigy.net/pam.orman/JoeHome.html>

NOTE: Please don't contact the newsletter editor to tell him that January is past or that he ran this feature last month. He knows these things. He simply feels this excellent almanac of astronomical events is worth publishing again in 6 month form. So, if you haven't saved last month's newsletter, here is your second chance to save this page.

Mark your calendar for these interesting alignments, conjunctions, occultations, eclipses & meteor showers in the year 2004. Times are calculated for Phoenix, Arizona; other locations may differ. Most will be easy to see with the unaided eye, some very challenging -- take a look! Constructive comments and corrections welcome. This list may be copied and distributed for non-commercial use, but it must be credited to Joe Orman.

- **January 18** (morning): Bright star Antares (magnitude 1.1) 3 degrees to right of crescent Moon, in SE before sunrise.
- **January 19** (morning): Mercury 8 degrees to left of crescent Moon, low in SE before sunrise.
- **January 27** (evening): Mars 3 degrees to upper right of crescent Moon, high in WSW after sunset.
- **January 24** (evening): Venus 5 degrees to lower right of crescent Moon, in WSW after sunset.
- **February 9 - 10** (night): Gibbous Moon occults magnitude 2.8 star gamma Virginis (disappears behind bright side 12:25 a.m. MST, reappears from dark side 1:24 a.m.), high in SE.
- **February 23** (evening): Venus 4 degrees to lower right of crescent Moon, in W after sunset.
- **February 25** (evening): Mars 1 degree to upper right of crescent Moon, high in W after sunset.
- **March 7** (evening): Full Moon rises almost straight east in twilight (sunset 6:30 p.m. MST, moonrise 7:32 p.m., Moon 3 degrees up straight east at 7:51 p.m.).
- **March 11 - 12** (night): Gibbous Moon occults magnitude 2.3 star delta Scorpii (disappears behind bright side 12:32 a.m. MST, reappears from dark side 1:11 a.m.), low in SE.
- **March 19**: Spring equinox (11:49 p.m. MST). Sunset straight west March 19 (6:39 p.m., azimuth 270.4 degrees), sunrise straight east March 20 (6:31 a.m., azimuth 89.3 degrees). Always use proper eye protection when viewing the sun.
- **March 24** (evening): Venus 3 degrees to lower right of crescent Moon, in W after sunset.
- **March 25** (evening): Mars 1 degree to lower left of crescent Moon, high in W after sunset (occultation for northern North America Iceland).
- **April 2** (evening): Venus in Pleiades star cluster, in W after sunset (Mars to upper left).
- **April 23** (evening): Crescent Moon, Mars and Venus make triangle within 8 degrees, in W after sunset (Mars to upper left of Venus mid-April through mid-May).
- **April 23**: Comet C/2002 T7 (LINEAR) perihelion (closest to Sun). Closest to Earth May 19. Best viewing in morning twilight late April, in evening late May.
- **May 6**: Comet C/2001 Q4 (NEAT) closest to Earth. Perihelion (closest to Sun) May 15. Best viewing early May through late May
- **May 20** (evening): Venus 5 degrees to upper left of thin crescent Moon, very low in WNW after sunset (occultation in Europe, Africa, Asia), Mars and Saturn to upper left. Venus 5 degrees to lower right of crescent Moon on May 21.
- **May 22 - 26** (evenings): Mars less than 2 degrees to right or upper right of Saturn, in W after sunset. Venus to lower right.
- **June 8** (daytime): Venus transits sun (visible in Atlantic Ocean regions only; not visible from Western North America). Always use proper eye protection when viewing the sun.
- **June 30 - July 8** (mornings): Bright star Aldebaran (magnitude 1.1) is less than 1 1/2 degree to lower right or right of Venus, low in ENE before sunrise.

East Valley Astronomy Club Membership Form

Please complete this form and return it to the club treasurer at the next club meeting OR mail to EVAC, P.O. Box 2202, Mesa, AZ 85214, with a check or money order made payable to EVAC.

IMPORTANT: ALL memberships expire on December 31, of each year.

New Member Only - select month joining:

- \$20.00 January – March
- \$15.00 April – June
- \$10.00 July – September
- \$25.00 October – December & Next Year

Membership Renewals:

- \$20.00 January – December

Name Badges:

- \$7.00 each Name: _____

Magazines: if renewal, customer # _____

(New) (Renewal)

- \$29.00 /yr Astronomy Magazine
- \$33.00 /yr Sky & Telescope

Newsletter delivery option, check one:

- Email (saves club printing & postage) U.S. Mail

Total enclosed \$

Name: _____

Address: _____

Phone # () _____

Email: _____

URL: _____

Local Star Party Sites

1: Florence Junction Site

General Information: The Florence Junction site is one of the two official sites for the East Valley Astronomy Club's Local Star Parties, typically held on the Saturday closest to Last Quarter Moon. Florence Junction offers reasonably dark skies within a short drive of most East valley locations. EVAC's Land Use Permit #26-104528 applies to this site.

Location: N 33° 14' 40" W 111° 20' 16"

2: Boyce Thompson Arboretum Site

General Information: The Boyce Thompson site is still considered the new local site. Only a few Star Party have taken place there as a second local site, although EVAC members have held Star Parties there at the request of the Arboretum on a twice yearly basis. The site has some privacy advantages over the FJ site.

Location: N 33° 16' 52" W 111° 09' 35"

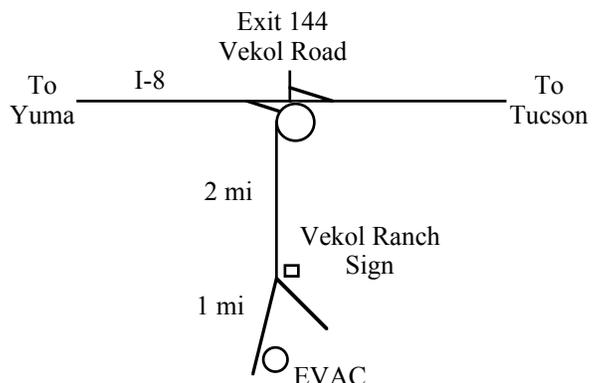
How to get there: Drive East on US 60 past Florence Junction for both sites. About 3.7 miles East of Florence Junction (after crossing railroad tracks) you will see a (second) flagpole on your right. Turning right (South) here and following the dirt road for 0.6 miles you will reach the FJ #1 site (marked by an old corral on your left). Continuing past the flagpole turn-off on US 60 and over Gonzales Pass will bring you to the Boyce Thompson Arboretum just before you enter the town of Superior. The Arboretum is marked with a large brown and white State Park Sign and there is a right turn lane.

Deep Sky Star Party: Vekol Road Site

General Information: The Vekol Road site is the official site for the East Valley Astronomy Club's Deep Sky Star Party, typically held on the Saturday closest to New Moon. Vekol Road offers dark skies despite prominent sky glow from Phoenix to the North. The site is within 90 minutes drive time from most East Valley locations.

Location: N 32° 47' 55" W 112° 15' 15"

How to get there: Take I-10 South and exit onto Maricopa Road. Continue through the town of Maricopa to SR 84, about 25 miles from I-10. Turn right on SR 84, after about 5 miles the road merges with I-8. Continue West and exit I-8 at Vekol Road-Exit #144. Turn left and cross the highway overpass. Before looping back onto I-8 take the small road (now paved) to the left. Go South for 2 miles. At the Vekol Ranch sign bear right and continue South for another mile until reaching a large open area on the left.



EVAC Officers

PRESIDENT

Peter Argenziano
(480) 633-7479

VICE PRESIDENT

Martin Bonadio
(480) 926-4900

TREASURER

Jack McEnroe

SECRETARY

Diane Cook

EV. COORDINATOR

Howard Israel
(480) 893-7523

PROPERTIES

Dave Williams

NEWSLETTER

John Matthews
(602) 952-9808

WEB MASTER

Marty Pieczonka

East Valley Astronomy Club

EVAC Homepage: <http://www.eastvalleyastronomy.org/>

Membership & Subscriptions: \$20 per year, renewed in December. Reduced rates to *Sky & Telescope* and *Astronomy* available. Contact the Treasurer:
Jack McEnroe at: keystoneconsulting@earthlink.net

Address Changes: Contact: Jack McEnroe. PO Box 2202 Mesa AZ 85214-2202

Club Meetings: Second Wednesday of every month at the Scottsdale Community College, 7:30 p.m. Meet in Room PS 172 (Physical Science Bldg.).

Newsletter: Email John Matthews at: john-cathy@cox.net The newsletter is mailed out the week before the monthly Club meeting. An electronic version is available in Adobe PDF format in lieu of the printed copy. Please send your contributions to John Matthews at: john-cathy@cox.net Contributions may be edited.

EVAC Library: The library contains a good assortment of books, downloaded imagery, and helpful guides. Contact Dave Williams at: davewilliams@cox.net
Book Discounts: Kalmbach and Sky Publishing offer a 10% discount to EVAC members on books and other items from their catalog. When ordering, notify the person on the phone that you would like the "Club Discount." When ordering by mail, there is a line to subtract the club 10%.

EVAC Star Party Line: Let other members know in advance if you plan to attend a scheduled observing session. Contact Events Coordinator Howard Israel at (480 893 7523).



**East Valley
Astronomy Club**

**EVAC
PO Box 2202
Mesa, AZ 85214**

**EVAC Homepage:
www.eastvalleyastronomy.org**

Reminders:

February EVAC Meeting Wednesday, Feb. 11, 2004

Location: Room PS - 172
Physical Science, (SCC) @ 7:30PM

March EVAC Meeting Wednesday, Mar. 10, 2004

Location: Room PS - 172
Physical Science, (SCC) @ 7:30PM