September 2000

www.eastvalleyastronomy.org

Scottsdale, Arizona

President's Message By Silvio Jaconelli

We'll be accepting nominations for the Board and Officer positions at the upcoming September EVAC meeting. So far, we have the following volunteers:

PRESIDENT:

CHUCK CRAWFORD

VICE PRESIDENT: DAVID COSHOW

TREASURER: MARTIN BONADIO

NEWSLETTER EDITOR: JIM KLINE

SECRETARY:

TOM MOZDZEN

PROPERTIES: RICK SCOTT

BOARD MEMBERS:

JOE GOSS GENE LUCAS KEN LEVY STAN FERRIS RANDY PETERSON

I firstly want to thank the outgoing officers for all their help this past year, and thank the above volunteers for offering to help for the upcoming year.

Secondly, I would like to encourage the membership at large to put their names forward for any of these positions. The candidate list is very dynamic, and can change from day to day, so any further volunteers will be welcomed.

And finally, I want to mention a special word of thanks to Dee Ann Zacher – Dee Ann will be unable to complete the rest of the year, as Treasurer and I want to recognize her efforts on this. Thanks!! In the meantime, a few of us will cover this position until the new officers take office in January.

Once again, I would like to ask that you submit articles to Martin Bonadio for the newsletter. Some months, there are not enough articles to make the Newsletter worth issuing. At some point, we may simply dispense with sending out the newsletter due to lack of content and instead mail cards reminding members of the upcoming club meeting. We really need to get a wider range of members to submit articles rather than the current half a dozen or so of the same people every month. Its fun – submit those articles!!

EVAC & Other Events: 2000							
	New Moon	Meet	Local	Deep Sky	Other		
Sep	27 th	13 th	23 rd	30 th	9/22 – 9/23 N. AZ Star Party		
					9/28 – 10/1 Enchanted Skies Star Party Socorro, NM		
Oct	27 th	11 th	21st	NA	10/14 Adopt-a-Highway 10/21 SAC/EVAC Picnic 10/28 All-AZ Star party – AZ City		
Nov	25 th	8 th	18 th	NA	Elections		
Dec	25 th	13 th	16 th	23 rd	12/9 Christmas Party		

We will have our final Board Meeting of the year on Sept 8^h – thanks to Stan Ferris for allowing us the use of his home for this. Topics that will be covered will include:

- The new officer elections for next year
- The All Arizona star party
- Possible formation of special interest groups within the club

This latter topic will look into the possibility of setting up deep sky observing groups, or ATM groups, or Photography groups within the club. Sounds like it'll be fun!

Now that the weather will soon be cooling down (and the nights will be arriving sooner), we will soon restart the beginners' labs that we started 9 months ago. These labs are designed for the novice astronomers, to help them understand their equipment (both owned or planned), to help them with the basics of observing, and whatever questions that they may have. We will need volunteer 'teachers' so please let me know if this appeals to you. Stay tuned for more information as we solidify the process.

Let me state a few words on magazine subscription renewals (Sky & Telescope, Astronomy). The club discounts are available because we submit the renewals in bulk. This means that we have to hold two or three months of renewals to reach the minimum number required to qualify for the discounts. So you MUST get the renewals to us as early as possible if you want to ensure that you do not miss any issues. It is very possible that we will be forced to hold your renewal application for up to three months if you just missed our latest mailing and there are few subsequent renewal requests received. So do not wait until the last minute to submit your renewals – submit them as soon as you receive your reminders in the mail.

The cash and bank funds on hand are currently sitting at just over \$4,000. This is a little higher than what we had at the start of the year, and is very close to what we budgeted to have at this time of the year. Given the low levels of activity over the summer months, I expect to see the funds gently drop to \$4,000 by November, then show some large spikes as the year 2001 renewals come in. All in all, we have a very controlled financial position.

Until next month

From The Vice President

By Chuck Crawford

WANT TO LEARN HOW TO DISCOVER ASTEROIDS AND COMETS?

Our guest speaker for September will be Dr. Ted Bowell from Lowell Observatory. The title of his talk is "Finding asteroids and comets: a needle-in-a-haystack problem". This should prove to be very informative as the talk will be devoted to how to search for these undiscovered objects and what to do with the results. In other words this will be a lesson from A to Z in NEO (near-Earth object) discovery. If this is one of your interests or something you are thinking of doing, you may well want to take notes.

Dr. Ted Bowell, Ph.D., University of Paris, 1973. Major research interests: orbital, dynamical, and physical studies of asteroids. He is one of the leading discoverers of numbered asteroids and he and his group are among the most prolific measurers of asteroid positions worldwide. Dr. Bowell has undertaken a major survey of asteroid colors, which are diagnostic of surface composition, and has studied the light-scattering properties of asteroid surfaces. Currently, he directs a program to search for near-Earth asteroids and comets entitled LONEOS. LONEOS is a system designed to find Earth-crossing asteroids (ECAs) and comets (ECCs), collectively known as near-Earth objects (NEOs). These objects can occasionally collide with Earth sometimes with devastating consequences. Finding large NEOs is the first step in averting a collision. Dr. Bowell also maintains a public-domain asteroid orbit database accessible from the Lowell Internet site.

DINNER WITH OUR GUEST SPEAKER

Each month we have an ongoing reservation at the Black-eyed Pea in Scottsdale for dining with our guest speaker. It is located across from the Pavilions fountain on Indian Bend Road west off the 101. Dinner begins at 5:30 allowing ample time to get to our meeting on time. Interested members are invited to attend. Those who have attended previously have enjoyed the camaraderie with other members and conversations with the guest speaker. If interested please contact me at astroc@mindspring.com or 480-985-8824 so I can tell the manager how many to expect.

LOWELL TRIP

Sadly the Lowell trip is not to be at this time. We did not have enough sign up to allow for transportation costs. Perhaps arrangements can be made at a later date for a small group to go via caravan. Those who might be interested in a caravan may contact me privately and we can see if there is enough interest for me to make special arrangements with Lowell.

Refunds for those who have paid will be forthcoming as I will be contacting those people individually. Depending upon the wishes of those who wrote checks, they can either be returned or destroyed as you desire and those who paid in cash will receive a cash refund (if at the meeting in September) or a check by mail following the meeting date.

EVAC-SAC JOINT STAR PARTY AND PICNIC

On Saturday, Oct. 21 the first big get-together of the Saguaro Astronomy Club and the East Valley Astronomy Club will be held. A great time to get together a large group of the folks in the valley who enjoy star partying and food.

This year we will meet at the Lost Dutchman Park on the east side and next year we can have this shindig on the west side somewhere. So, if we show up around 3:00 in the afternoon, that should leave plenty of time to roast some hotdogs, barbecue some burgers, shovel out some potato salad, set up a telescope and chat with the all the fun folks who also enjoy viewing the night sky.

To get there: take Hwy. 60 (Superstition Frwy) to Idaho Road exit in Apache Junction, go north through Apache Junction crossing Old West Hwy until you reach Highway 88 (Apache Trail), turn right and continue northeast on that until you reach the park

entrance to Lost Dutchman Park on the right. You will pass Goldfield's Ghost Town, which is on the left side of the road a short distance south of the park. Enter the park (right turn) and once inside take the road to the right, it will lead to where we are located. There is a minimum fee to enter the park for each vehicle. Not per person!

The eats will be pot luck, so bring your picnic favorites. There are grills in the park and the clubs will furnish charcoal and starter fluid. The clubs will also divide the price of ice, soda, plates & cups, utensils, mustard, ketchup and relish. We would need some volunteer cooks for the grilling. Anyone want to volunteer for this?? So, show up with meat for the barbecue, buns, beans, a casserole, salads or desserts. If everyone shows up with meat for the grill or one dish, that will be plenty. Knowing us, I don't think anyone will go hungry.

So, let's make our way out of town and enjoy a fun night with all the people in "the other club". Sounds like a great evening sharing astronomy and good will. Rain??, clouds, or clear the event will go on!

 $\label{eq:Sign-ups} \mbox{ for this event will be at our September} \\ \mbox{ and October meetings.}$

NURO (National Undergraduate Research Observatory) PROJECT UPDATE

My thanks to those members who have expressed an interest in being included in this endeavor. The proposal has been submitted to the Director at NAU and we await the outcome of the voting by the existing consortium member institutions. With Arizona State University and a number of its astronomers and Glendale, Mesa, and Scottsdale Community Colleges and its astronomers on board in support of the program, it looks as if an affirmative vote may well be forthcoming.

With the quality of people and institutions now associated with this project, this is certainly a step in the direction of acquiring time on a professional telescope for doing pure research and assisting undergraduates at Anderson Mesa and could lead to

other such programs and facilities at Kitt Peak or elsewhere in the future.

Special thanks to members Gene Lucas and Dr. Steve Odewahn for their expert assistance in helping to develop this proposal to its final stage.

Fall Adopt-A-Highway Cleanup

By Martin Bonadio

It's time again to have some fun picking up trash! Our Club has its semiannual cleanup of the EVAC Mile scheduled for Saturday, October 14th 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).

Look for a sign up sheet at the monthly meeting. With 10 volunteers, we can finish by 11am. Meet at Florence Junction (intersection of Highway 60 and 89) on the north side in the far west corner of the parking lot (closest to the radio tower). As in the past there will a club sponsored lunch at the Village Inn in Apache Junction (managed by our own Randy Peterson) following the cleanup! These cleanups have always been a great time. But, I still can't figure out how Silvio keeps finding such interesting videos every time out! So, come out, get some exercise, and get to know each other in the daylight.

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, longsleeves and/or sunblock, 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, 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 it's 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. 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.

Contact me at 480-926-4900 if you want to help or have questions. Thank you.

Last Call for Slides

The September club meeting will be the last chance for EVAC members to submit their slides for the big year-end show.

Slides can be astronomical or general sky photos, or pictures of telescopes, observatories, star parties and club members. The show will be presented at the December 13 EVAC meeting, with multiple projectors and a synchronized musical soundtrack. Each contributor will get screen credit in the show. All slides will be handled with utmost care and returned promptly after the show.

Please bring your slides to the September 13 club meeting or contact:

Joe Orman (480) 812-9424 Joe.Orman@motorola.com

Observing Aid Reading Material for Beginners

By Silvio Jaconelli

The most common questions that I encounter relate to hardware. Well, I do not intend to cover that here; rather, I will talk about the next most frequently asked questions – that to do with reading materials that will assist in increasing observing skills. While it is hard to beat one-on-one mentoring from a more experienced amateur, there is a definite place for written materials.

An excellent place to start is the two major magazines – "Astronomy" and "Sky & Telescope". These have some very useful features.

Firstly, there are sky charts in the middle of each – it is essential that you know the constellations before starting an observation program, and the planisphere-style sky charts are good for this. The computerized "go to" telescopes lessen the need for this training, but personally I feel that it is well worth the effort to learn how to navigate one's way around the sky. And once you learn, you will never forget.

Secondly, I particularly like the middle pages (or close by) of these two magazines - they have short observing articles for either naked eye objects or binocular objects. These objects are not difficult to find and the sky charts shown display a very wide field of view, so you will score some relatively quick hits with your telescope if you hunt these objects down. Don't let the words "naked eye" or "binoculars" put you off – these objects will look fascinating through a telescope.

Please remember that EVAC offers good discounts on both these magazines – just let the Treasurer know well in advance as the ordering/mailing process takes about 3 months.

Once you master the two skills above, you can graduate up to the full blown observing articles in these magazines, but it will take some rudimentary skills to do this, and a sky atlas would be really helpful. I'd recommend 'Wil Tirion's Bright Star Atlas 2000' since it is neither too detailed nor too brief, and is very modestly priced at under \$15. It divides the sky into 8 segments, and each segment has a very useful list of observing targets by category – nebulae & galaxies, double stars, etc. All of the targets are not difficult, and are really ideal for beginners. I use this book regularly myself.

Another excellent book for beginners is John Sanford's 'Observing the Constellations', which costs around \$20. This book devotes 4 pages or so to each constellation, and has rudimentary star charts. Again, there are lists of observing objects for each constellation. I use this book also regularly myself.

The last 'hard core' beginner's observing book that I would recommend is 'Starhopping for Back Yard Astronomers'. This book is a little more advanced than the books mentioned earlier, but has detailed star maps, and month-by-month observing programs. It also has chapters on equipment and observing techniques.

If you are interested in books that do double duty by covering both hardware and software, there is 'The Backyard Astronomers Guide" by Terence Dickinson. This book talks about all sorts of topics – equipment, observing techniques, and then ends up with several observing programs. "Starware" by Phillip Harrington follows a similar thread, but this book is very heavy on the hardware side, and is suitable if your interest is heavy into hardware; but I did find that Phillip Harrington was not as critical of the hardware being reviewed, as I would have been. I hope that this brief overview will be of help.

Test Your Knowledge

By Chuck Crawford

- 1. The hotter a star is, the
 - a. brighter and redder it will be
 - b. brighter and bluer it will be
 - c. fainter and redder it will be
 - d. fainter and bluer it will be
- 2. The Sun produces
 - a. a continuous spectrum
 - b. an emission spectrum
 - c. an absorption spectrum
 - d. no spectrum
- 3. If the eyepiece of a telescope is replaced with an eyepiece with a focal length

twice as long, the magnifying power is

- a. four times greater
- b. two times greater
- c. four times less
- d. two times less
- 4. A device the measures the brightness and color of an individual star is called
 - a. an interferometer
 - b. a camera
 - c. a photometer
 - d. a spectrograph
- 5. In the absence of mass, space-time is said to be flat. In the presence of mass space-time is said to be
 - a. smooth
 - b. length contracted
 - c. confused with acceleration
 - d. curved

Bonus:

Of the following combinations of types of universes, the one that is NOT possible is the

- a. closed, inflationary, and oscillating universe
- b. open, inflationary, and oscillating universe
- c. flat and inflationary universe
- d. closed and oscillating universe

EVAC Special Interest Groups

by Rick Scott (rmscott@home.net)

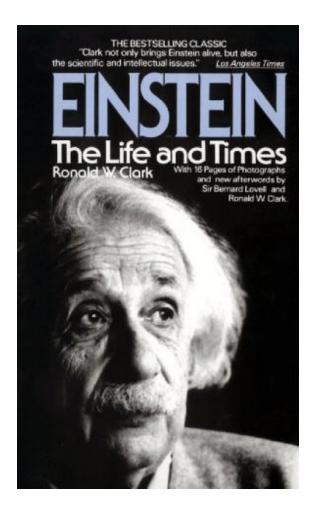
Are you into astrophotography? How about building telescopes? Double stars or irregular galaxies anyone? I'm interested in at least the first two, but I only really know three or four EVAC members that share these interests with me. I know there has to be more or why else are all of you in this club. I was talking with Silvio the other day and came up with the idea that maybe EVAC members could create some Special Interest Groups (SIG's) to cover various interests. My personal feelings are that the EVAC meeting time could offer 15 or 20 minutes for these groups to meet. If the SIG's are successful, maybe they could have their own meetings to spend more time on their subject areas.

The astrophotography SIG may even hold their own star parties and the telescope makers could help each other with ideas or even physically on each other telescopes. The SIG's that cover various astronomical objects could get together and compare note or dare I say, observe together. How about a group devoted to theory or just technical subjects such as optical design and aberrations?

If you're interested, let me know. If I get enough responses, I will publish a list in the newsletter of the subject areas you come up with. Then we could get together at a meeting and see what develops, or gets built, or designed, or observed. I'm sure you get the idea. Rick Scott - (480) 821-5721. Email: mscott@home.net.

Library Focus By Joe Orman

This month's review: **Einstein: The Life and Times** by Ronald W. Clark.



Albert Einstein was a physicist, not an astronomer. His investigations took place on a blackboard and in his own mind. But he has done more to influence our vision of the universe and our place in it than perhaps any other person.

Einstein has become such an icon in our society, whose name is synonymous with "genius," that it is sometimes hard to remember that behind the image was a real man. Clark's meticulously-researched

biography describes both. Einstein tried to distance himself from his native Germany, and was working as a technical expert in a Swiss patent office when he formulated the theory of relativity. People have often considered it remarkable that someone so absentminded, working as a civil servant outside of academia, could have such great thoughts. But these are the very things that freed his mind to work on physics.

Relativity re-wrote the rule book. Mass and energy are equivalent. Space and time are dimensions of a single thing called space-time. Gravity and acceleration are indistinguishable. Gravity bends light. Light is both a wave and a particle. The speed of light is constant, regardless of the speed of the source or observer, and is also the ultimate speed limit -- but as you approach it, length, mass and time itself change! From the smallest atomic scale to the limits of the cosmos, everything had changed.

These ideas were so radical, so contrary to the evidence of the senses, that many found them hard to accept. Important early validation was by astronomical observation. The theory explained a previously-observed 0.1 arc-second per orbit advance in the perihelion of Mercury. It also predicted a deflection of starlight by the sun's gravity by about one arc-second, which was confirmed during the total solar eclipse of 1919. Einstein quickly became the most famous scientist in the world, but his influence rippled throughout society, into such disciplines as ethics and philosophy. Einstein did make mistakes, such as his rejection of quantum mechanics and his use of a "cosmological constant" to keep the universe of his equations a non-expanding one - which Hubble's later observations would disprove.

Of course, just as Einstein's relativity refined and replaced Newton's laws of gravitation, relativity itself is not the ultimate answer. But Einstein has earned a permanent place in history; he was recently named TIME Magazine's "Person of the Century." Just as astronomers look out into the universe with their telescopes, Einstein looked out into the universe with his intellect and his imagination. No matter how deep into space we look, we see that he was there before us.

To check out a book from the EVAC library, contact properties manager Rick Scott at rmscott@home.com or (480) 821-5721.

If it's clear...

By Fulton Wright, Jr.

Prescott Astronomy Club for September 2000

Shamelessly stolen information from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find data. When gauging distances remember that the Moon is 1/2 a degree or 30 arcminutes in diameter.

On Wednesday, September 6, from about 9 pm to 10 pm you can see the Moon move through the edge of a star cluster. With a medium or large telescope look 30 degrees above the southwest horizon for the gibbous Moon. The south end of the Moon will graze the cluster M21. Use as big a telescope as you can, use fairly high power, and move the bright part of the Moon out of the field of view to make the stars as visible as possible.

On Thursday, September 7, at about 7:35 and 10:15 pm you can see the Moon occult two 5th magnitude stars. With a small telescope look 30 degrees above the south horizon for the moon.

On the night of Thursday, September 14, starting just after midnight (really on the September 15) you can see a short appearance of one of Jupiter's satellites. With a small telescope look 20 degrees above the east horizon for Jupiter. Here are the approximate times:

- 12:11 am Europa starts to appear from Jupiter's shadow, north (celestial) west from and very close to the planet.
- 12:13am Europa is completely out of Jupiter's shadow.
- 12:17am Europa starts to go behind Jupiter.
- 12:20am Europa is completely hidden by Jupiter.

On Monday, September 18, at about 11 pm you can see a great collection of astronomical objects. With your unaided eye look for Aldebaran, Jupiter, the Moon, Saturn, and the Pleiades rising above the east horizon.

Aperture Fever?

Submitted by Martin Bonadio



For Sale

ETX90-EC, brand new, never out of the box. Will include table-top tripod #880 and a Celestron Solar Skreen that fits over the OTA all for \$550.00 Please call Bill Johnsen, 480-962-8998.



EVAC on the Internet

EVAC Homepage: www.eastvalleyastronomy.org

E-mail Mailing Lists

EVAC-mls is a mailing list for club announcements and quick notification of astronomical events.

To join, send E-mail with the "Subject: subscribe" to EVAC-mls-request@psiaz.com

EVAC-Board is for EVAC business. All club members are welcome to participate.

To join, send Email with the "Subject: subscribe" to EVAC-Board-request@psiaz.com

AZ-Observing is a fairly general mailing list about observing in Arizona. Included are star party information, who is going, as well as the latest observations and astronomical events.

To join, send E-mail with the "Subject: subscribe" to <u>AZ-Observing-request@psiaz.com</u>

Although EVAC is a private club not open to the public, we do encourage potential new members to initially join us at our club meetings and/or star parties to help them determine the suitability of the club to meet their needs.

East Valley Astronomy Club

Membership Form

Please complete the information requested. Return at the next club meeting or to the address below, with a check made payable to EVAC for the appropriate amount due. *IMPORTANT*: Please note that ALL memberships expire on December 31 of each year.

1. Check one of the following: () New Member	er () Renewal
2. Select appropriate dues options:	Send To:
New Member select month joining: () \$20.00 January - March () \$15.00 April - June () \$10.00 July - September () \$ 5.00 October - December	EVAC Treasurer P.O. Box 2202 Mesa, Arizona 85214-2202
Member Renewals (current Members ONLY!) () \$20.00 Annual Renewal (January - Decemb	er)
Magazines:Provide renewals notices with payment.() \$29.00Astronomy Magazine() \$30.00Sky & Telescope	
Name Badges () \$7.00 Each	Total Enclosed
Complete requested information below. Please Name:	e Print.

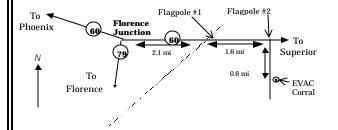
EVAC Star Parties

Local Star Party: Florence Junction Site

General Information: The Florence Junction site is the official site for the East Valley Astronomy Club's Local Star Party, 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. (Report gunfire or illegal activity: 800/352-3796; Land use permit number: 26-104528.)

<u>Location</u>: N 33° 14′ 40" W 111° 20′ 16"

How To Get There: Take US 60 east to Florence Junction. Go past Florence Junction. 2.1 mi past FJ are railroad tracks, and on the right will be a flagpole. Do not turn there. Continue on for another 1.6 miles until you find the second flagpole on the right. This is your turn. Turn right, and continue on the dirt road for 0.6 miles. The corral is on the left right before a gas-line sign.



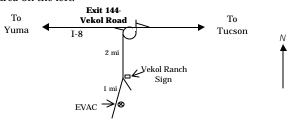
Deep Sky Star Party: Vekol Road Site

Address:

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 1½ hours drive time from most east Valley locations.

<u>Location</u>: 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 dirt road 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

East Valley Astronomy Club—2000 Scottsdale, Arizona

EVAC Homepage—http://www.eastvalleyastronomy.org/

PRESIDENT Silvio Jaconelli (480) 926-8529 **Membership & Subscriptions**: \$20 per year, renewed in December. Reduced rates to *Sky & Telescope* and *Astronomy* available. Contact Martin Bonadio. Email—mabastro@aol.com

VICE-PRESIDENT Chuck Crawford (480) 735-8042 **Club Meetings**: Second Wednesday of every month at the Scottsdale Community College, 7:30 pm. Normally Room PS 170 or 172 in the Physical Sciences Building. See map below.

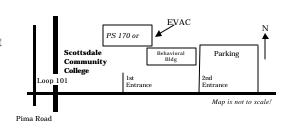
SECRETARY Tom Mozdzen **Newsletter and Address Changes**: Contact Martin Bonadio 921 North Kingston Street, Gilbert, AZ 85233, 480/926-4900. mabastro@aol.com. Contributions may be edited. The Newsletter is mailed out the week before the monthly Club meeting. An electronic version available in Adobe PDF format in lieu of a printed copy. Please contact Martin with delivery your preferences.

Tom Mozdzen (480) 497-5703

EVAC Library: The library contains a good assortment of books, downloaded imagery, and helpful guides. Contact Rick Scott for complete details, 480-821-5721

PROPERTIES Rick Scott (480) 821-5721 **Book Discounts**: Great savings through Kalmbach and Sky Publishing. Contact Martin Bonadio.

EVAC Party Line: Let other members know in advance if you plan to attend a scheduled observing session. Contact Stan Ferris, 480/831-7307.





Martin Bonadio, Editor 921 North Kingston St. Gilbert, AZ 85233

Contents:

- President's Comments
- From the Vice President
- Adopt-a-Highway
- Last call for Slides
- Observing Aid Reading Material for Beginners
- Test Your Knowledge
- EVAC Special Interest Groups
- Library Focus
- If It's Clear
- Aperture Fever
- For Sale

Reminder: Next EVAC Meeting Wednesday, September 13, 2000