

# *Desert Skies*

October, 1994

*The Newsletter of the Tucson Amateur Astronomy Association (TAAA)*



**GENERAL MEETING - Friday, October 7th, 7:30 pm** at the Steward Observatory Auditorium -room N210. October's speaker is Guy Consolmagno: **"Turn Left at Orion."**

**Pre-meeting "Beginners lecture" at 6:30** by Lin Prior - **"Light Pollution, a Personal Perspective."** All are welcome! This lecture is in Steward obs. lecture hall N210. (Note earlier starting time). See enclosed map for directions!

**EXECUTIVE MEETING - Thursday, October 13th, 7:30 pm** at Flandrau Science Center's Conference Room

**STAR PARTIES:** 1 October - Chiricahua National Monument campout - see inside.  
4 October - Star Party at Richardson Elementary - see details inside.  
7,8 October - All Arizona Star Party at Arizona City - see inside.  
29 October - Kitt Peak Cookout and Star Party - see inside.  
29 October - Empire Ranch for those not going to Kitt Peak.

**Tours:** 6 October - Steward Observatory Mirror Lab - see inside.

**Lectures:** 10 October - David Levy "A week to Remember: Shoemaker-Levy 9 and Jupiter."  
24 October - Frank Hill "Listening to the Music of the Sun."

**Both of these are in Steward Observatory N210 at 7:30 - observing follows.**

**Next Newsletter Deadline - October 19th.**

**Cover:** Babette and Fred Whipple tour the Mirror Lab and the latest 6.5 meter casting still in the oven. Fred gave a memorable talk reminiscing his career as an astronomer for the TAAA's 40th anniversary banquet. A Mirror Lab tour will be offered to TAAA members on October 6th. **Back Cover:** Five former and current TAAA presidents gather for the anniversary. Pictured are long-time president Don Strittmatter, Ron Ferdie, Duane Niehaus, Tim Hunter and current President Dean Ketelsen. Photos by Dean Ketelsen.

#### TAAA EXECUTIVE

President	Dean Ketelsen	293-2855
Vice-President	Terri Lappin	579-0185
Executive Sec.	Rob Nyberg	745-0710
Recording Sec.	Tabitha Niehaus	797-4189
Treasurer	Duane Niehaus	797-4189
Member-at-Large	Bob Goff	790-1452
Member-at-Large	Dave Harvey	797-2512
Chief Observer	Mike Terenzoni	887-3226
Mem. Coord.	Gary Rosenbaum	579-0185
Past President	Tim Hunter	299-2972
Newsletter	Dean Ketelsen	293-2855

#### MEMBERSHIP IN THE TAAA

Individual	\$25.00/year (increased
Family	\$30.00/year rates as of
Senior Citizen (over 60)	\$23.00/year July 1st '94)

Sky & Telescope subscription (optional) \$20.00. Rates for membership in the TAAA are given above. Members may subscribe to Sky & Telescope at the time membership renewal, saving more than 25% off the cost of a regular subscription. The subscription term must match your membership period.

**Send one check, made payable to: Tucson Amateur Astronomy Association,** to cover both membership and subscription to: TAAA, PO Box 41254, Tucson, AZ 85717. It is best to pay your dues 2-3 months before your membership actually expires.

#### Desert Skies Publishing Guidelines

\* All articles, announcements, news, etc. must be submitted by the newsletter deadline listed above. Materials received after that date will appear in the next issue.

\* All submissions are retained by the editor unless prior arrangements are made.

\* Partial page article submissions should be submitted on Wordperfect compatible files on a floppy. Full page articles, artwork, and photos should be camera ready.

\* We will not publish slanderous or libelous material!

Send articles, announcements, etc. to:  
TAAA - Desert Skies  
PO Box 41254  
Tucson, AZ 85717

Send ADDRESS CHANGES to:  
TAAA  
Attention: "address change"  
P.O.Box 41254  
Tucson, AZ 85717

#### 4 EASY STEPS TO MEMBERSHIP RENEWAL

1. Pay your dues 2-3 months early. **Your month of membership expiration is listed on your newsletter mailing label.**
2. a) Decide if you want Sky & Telescope, then add \$20 to your membership rate.  
b) Include Sky & Telescope's renewal notice, if possible.
3. Write one check, payable to TAAA.
4. Send it to TAAA, P.O. Box 41254, Tucson, AZ 85717.

## **October's Featured Speaker - Guy Consolmagno**

### **"Turn Left at Orion"**

Dr. Guy Consolmagno, of the Vatican Observatory Research Group at Steward, will present a talk on the joys of small telescope usage, and some of his star-hopping techniques. Guy's name may sound familiar as he presented a very entertaining talk to us just last March on the Solar System. Also, for those well-read among you, he has authored a beginning guide to the sky titled "Turn Left at Orion."

Guy got his first telescope at age 11 - for 16 1/2 books of Gold Bell Trading Stamps. Starting grade school soon after Sputnik, like all kids of his age generation he always thought of himself as a young scientist. Not until high school did the Jesuits teach him the joys of Latin and Greek, Literature and History. So Guy started at Boston College as a history major. However, his best friend from high school was going to MIT, and convinced him to transfer there. They wanted him to declare a major, and he chose "Earth and Planetary Science" thinking that it was the same thing as astronomy. Wrong. Still, much to his surprise, Planetary Science turned out to be loads of fun, and came to the U of A for his PhD. After five years as a post doc (Harvard and MIT) he asked myself, "Why do astronomy when there are people starving in the world?" So Guy quit it all to join the Peace Corps. While in Africa, he found the answer-- astronomy is important because it satisfies the curiosity in us that makes us different from just well-fed animals. In fact, people in Africa were dying to hear about space and stars and such. So he got another little telescope (paid cash this time), brushed up his amateur status, and gave a zillion talks at schools all across Kenya about astronomy. He also learned how to use that telescope (thanks to his friend and fellow amateur, Dan Davis) and put what he learned into their book, **Turn Left at Orion**.

After the Peace Corps, Guy taught astronomy and physics for 4 years at Lafayette College, then joined the Jesuits thinking that He would be assigned to one of the Jesuit colleges to teach. Instead, they sent him here. Surprise! Seems they realize that the church needs to know about astronomy, too!

### **Beginner's Lecture**

#### **Lin Prior - "Light Pollution, a Personal Perspective."**

Lin is a local legal assistant and is relatively new to astronomy and light pollution issues. However, armed with a few International Dark-Sky Association (IDA) slides, her own unique perspective on topics of safety, security, light trespass and what affects us as astronomers most, light pollution, acquaints us all with the underlying issues and educates us about proper lighting.

## **Call for Jupiter Observations**

Beatrice Muller of the National Optical Astronomy Observatories (NOAO) is interested in amateur observations of the SL-9 impact areas on Jupiter as it nears conjunction with the sun. Except for daytime infrared observations, Jupiter is already out of reach of professional telescopes, and visual wavelength observations are sorely needed. Contributions are especially welcome if you have observed Jupiter since the impacts. Contact Beatrice at 327-5511.

## 40th Anniversary Celebration

On September 10th, 135 members and friends of the TAAA gathered together for a delicious banquet and special lecture in celebration of our 40th anniversary. Special guests present included long time TAAA president Don Strittmatter (president for 19 years!). This occasion brought several past TAAA presidents together, making for a superb photo opportunity. Present were Don, Ron Ferdie, Duane Niehaus, Tim Hunter, and Dean Ketelsen. Missing were David Levy (the dedicated observer was at Mt. Palomar with Eugene and Carolyn Shoemaker looking for more comets), Tom Caudell, Dennis Nendza, and the two or so presidents before Don's reign.

Dr. Fred Whipple of the Harvard-Smithsonian Center for Astrophysics (CfA) presented a lecture which touched on highlights of his long career which included the Moonwatch Program (of which the TAAA was a prime member) and the establishment of the Smithsonian field station we now call Whipple Observatory. Dr. Whipple showed a video from the Giotto spacecraft which visited Halley's comet several years ago. Dr. Whipple is an expert comet and meteor scientist having developed the dirty snowball theory of comets back in the 40's. Although retired for some time now, he has kept abreast of research in the field of comet studies and he made a few comments about the recent Comet Shoemaker-Levy impacts with Jupiter. His lecture was video taped and a copy will soon be available for members to borrow.

Dr. Whipple and his wife (Babbette) arrived in Tucson a few days before the big event and were able to visit some sites around town. A visit to Whipple Observatory was conducted by the staff of the observatory and Dean Ketelsen conducted a tour of the Mirror Lab which included the 6.5m that is scheduled to replace the 6 mirrors at the MMT. The Whipple's also visited the Desert Museum and some local art museums and got together with some friends in the area. They were very appreciative of the TAAA for making their visit so enjoyable.

At the end of the banquet Don Strittmatter said a few words about our heritage and the TAAA's unique position in the "Astronomical Center of the World". He said that we are a dynamic group (having changed our name three times) and we are where the action is. Don says that we should not be "Manana Astronomers" putting off observing and other activities for another day, but should take advantage of the unique opportunities that we have before us. I hope we can do as Don says and make the next 40 years even better.

A special "THANK YOU" goes out to those people who helped make this event a success: TAAA members Sharon, Tabitha and Duane Niehaus, Dean Ketelsen, Phil Farnum, Ron Ferdie, Don Strittmatter and non-members Dan Brocious (Public Information Officer at Whipple Observatory), Jim Cornell (Publications Director of the CfA), Ray White (Steward astronomer), Jim Christy (TAAA member from the earliest years), Frank Lopez (of Stellar Vision), the staff of the Viscount Suite, and members of the local press Jim Erickson (Arizona Daily Star) and Bob McCormick (Green Valley News) and, of course, Fred and Babbette Whipple. I apologize for anyone I missed.

Terri

Special Note: The banquet would not have been nearly so successful if not for the efforts of Teresa Lappin. Her efforts especially needs to be recognized. -Ed.



## **Chiricahua National Monument Campout and Star Party**

### **1 October, 1994**

Don't forget this nearly annual event at one of the most scenic locations in Southeastern Arizona. As noted in the last newsletter, we have the group campsite scheduled for this date. Also recall that although the group site will hold up to 50 campers, the parking area only holds 5 cars, and at the signup at the September meeting, 16 signed up. The lucky 5 are D. Ketelsen, R. Smeaton, M. Leonard, K. Kumm, and L. Dettmann. Individual campsites are also available on a first come, first served basis. Since two cars fit in the individual sites, if a few early birds get some sites, we can all get in, and camp at the group site. The official overflow parking area is at the Faraway Ranch, about 1.5 miles from the campground, and shuttles to the campground can be arranged if there are no individual sites.

The Massai Point observing site is at 7,000 feet elevation, so be sure to dress appropriately. Fliers have been sent and we will probably get some locals wanting to get early views of Jupiter and Venus, so please arrive early enough to set up by then. Be sure to schedule some hiking time if you are physically able. This is a very special scenic area, and the best views cannot be seen from your car. You might also want to schedule a visit to the truck farms north of Willcox on your way home. This time of year is great for apples, squash, peppers, pumpkins and pistachios! Have a great weekend!

## **Steward Observatory Mirror Lab Tour**

### **6 October, 1994**

Though not much has happened lately at the lab, many have never been treated to a tour and we have scheduled one for the 6th at 6:30pm. This tour is designed for the folks who have never seen the lab and will consist of the video and a walk through tour showing the polishing and casting facility, including work on the two latest 6.5 meter mirrors. Call Dean at work at 621-8764 to reserve a spot, as attendance is limited to 25 people. The tour will take about 1.5 hours and will start promptly at 6:30. See you there!

## **Kitt Peak Cookout and Star Party**

### **29 October, 1994**

We have been given permission to hold another event at the Kitt Peak picnic area. The rules are consistent with previous trips. We are welcome to take part in the public tours at the Observatory at 11am, 1pm, and 2:30pm. When the mountaintop closes to the public at 4pm, we should make our way to the picnic area for the cookout. Cooking fires need to be out by sunset in consideration of the observatories in the area. Moonrise is about 2:30, and we are expected to leave about that time. No camping is permitted at the picnic area, though you can sleep in your car at the base of the mountain if you need to. Attendance is limited to 30 non-docents. If you are a docent at the Kitt Peak museum, you need to register, but you do not count towards the maximum of 30 attendees. There will be a sign up sheet at the October meeting. If you want to go, but can't attend that meeting, call Dean for consideration at 293-2855.

## 13th Annual All-Arizona Star Party October 7th and 8th

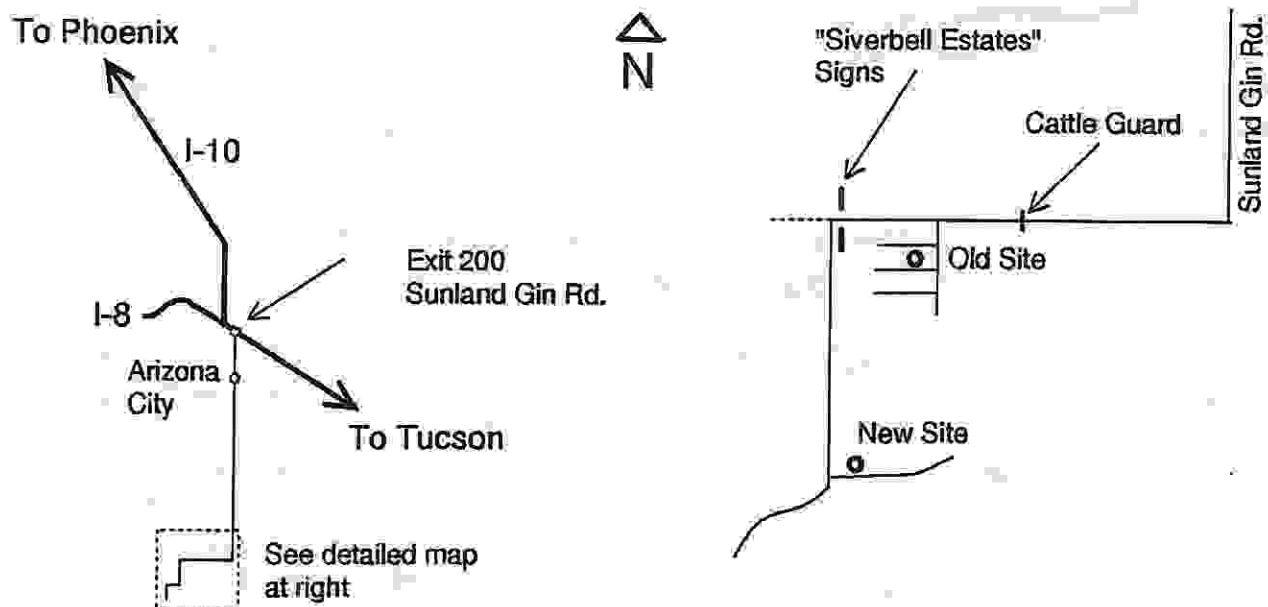
This year's event is sponsored by the East Valley Astronomy Club and will be held for the third year at their Arizona City site, midway between Tucson and Phoenix. This is a great opportunity to meet new astronomical friends and see old ones from all around the state. The site is also a convenient one for the metro Phoenix and Tucson areas, so hopefully attendance will be high from both areas.

Traditionally, two nights of observing are planned to maximize chances of getting some clear skies. Unfortunately, the 7th conflicts with our October general meeting. The only scheduled event is on Saturday, where there will be a swap meet in the afternoon preceeding sunset.

The site is a primitive one, with no power, though in recent years port-a-johns were rented for the event. Be sure to bring all you need as there are no Circle Ks for twenty miles! The elevation is about 1800 feet, low by TAAA standards, but as a result, temperatures should be quite comfortable. If you want to observe both nights or only one, be advised that there are motel rooms at the I-10 exit about 20 miles away if you do not want to drive all the way home afterward.

Direct questions to EVAC president Bob Kelley at (602) 947-3191 (day number).

### New Arizona City Site



Take I-10 to exit 200 (Sunland Gin Road). Turn right (south) after exiting the freeway. After about 15 miles, the pavement ends and about one mile further, the road turns sharply to the west. One mile past the road to the old site, the main road will turn south just after the "Silverbell Estates" signs. Continue for another 2.5 miles. The road will veer off to the west. Immediately to the east is the road to the site. About 100 yards down this road are several large, open areas to the left.

# Youth Astronomy Club

One of our new members has seen a need and is offering a solution. She is offering to start a youth astronomy club, whose activities will run concurrently with the existing general meeting. School age children would be welcome to attend these activities in a separate room, while their parents are in the main meeting. This solves the problems of having bored kids running around disrupting the lecture, and in the meantime offers something to them on their level to make it an educational endeavor. Also, more members might attend if they knew their kids had this activity available. We would like to know if there is any interest in such a program, if there is some minimal response, we will plan a program for the November meeting. Contact Dean or Teresa if you would participate in the Youth Astronomy Club. Our volunteer would also like some additional assistance, and its success is also contingent on videotaping meeting so those taking part in the youth program can enjoy the meeting at a later time.

## The (almost) Final TAAA E-Mail Directory

The following members have provided their e-mail addresses. Those with computers and modems who subscribe to a BBS or the Internet via work can send messages via the following addresses. We've set up a network for late-breaking news and TAAA information, since it is as easy to send 50 messages as it is to send one. If you have an e-mail address and are not listed below, or listed incorrectly please send me a note at ketelsen@as.arizona.edu.

Anderson, David	anderson@as.arizona.edu	Levy, David	dhleavy@lpl.arizona.edu
Becker, Brad	bradb814@aol.com	McGaha, James	jmcgaha@pimacc.pima.edu
Brown, Aaron	pbrown@rtd.com	Mechler, Gary	gmecbler@pimacc.pima.edu
Conner, Steve	conner@bigdog.engr.arizona.edu	Nyberg, Rob	70541.1027@compuserve.com
Crawford, David	crawford@noao.edu	O'Connell, Brian	boc@pirl.lpl.arizona.edu
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Fisher, Don	fisherd@aries.saic.com	Saumon, Didier	dsaumon@lpl.arizona.edu
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Ketelsen, Dean	ketelsen@as.arizona.edu	a.crayon@smtplink.az05.bull.com	
Kumm, Keith	kmk@hobbes.wavelogic.com	Paul Dickson (newsletter editor)	
Lappin, Terri	lappin@egret.sao.arizona.edu	dickson@az05.bull.com	
Lancaster, Chris	clancaster@genie.geis.com	Salt Lake Astronomical Society:	
		Patrick Wiggins	
		75140.1546@compuserve.com	

## **The Halloween Astronomy Project**

Halloween...little ghosts, goblins, and space aliens abound! What better time to treat these creatures to a peek through your telescope. Their parents will enjoy it too! This year the treats for the kids include Saturn, the Ring Nebula, Andromeda Galaxy, and the Double Cluster in Perseus. The moon will not be up until well after midnight.

Set up your telescope near the sidewalk with a jack-o-lantern or similar attention getting (not too bright) light source nearby. Spooky music gets attention too! Leave your patio lights off to draw kids away from your front door and towards you and the telescope. Then watch the Dr. Jeckle/Mr. Hyde reaction when the meanest, ugliest looking monster gets a look at Saturn for the first time. While most masks have large openings for eyes, kids may see better if they remove their masks. Be sure to have a step ladder handy for the little ones. The tendency is for people to support themselves by leaning against the telescope, so warn them not to touch your telescope.

Instead of the usual Tootsie Roll, offer astronomical candies like miniature Milky Ways, Star Bursts, or Mars Bars. You may get one or two youngsters with a real interest in the night sky. Consider picking up something special from the Flandrau Planetarium for these kids...help spark their interest in science!

Last year we had several people (kids and adults) look through our telescopes on Halloween night. We didn't count, but several gremlins came back for a second and third look. Some of our members who live in Salt Lake City took our advice last year and set their telescope up on Halloween night and had a great time showing the kids the sky.

If you set up your telescope, let me know how it goes and how many kids you get at your telescope. I hope that with the help of the Tucson Amateur Astronomy Association, the Halloween Astronomy Project becomes an annual event for Tucson's kids.

Teresa

## **1995 Astronomy & Space Appointment Calendar**

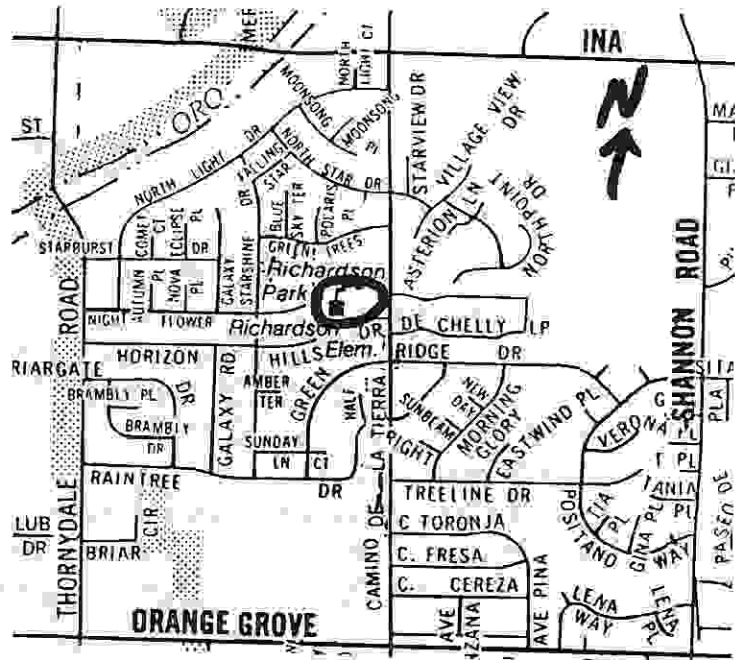
Next year may seem like its way off, but to the calendar industry its just around the corner! It is time to place your order for the 1995 Astronomy & Space Appointment Book. We will be selling these spiral bound appointment books at the October and November meetings with delivery at the December and January meetings. These calendars feature 54 color photographs and space images. Each week is shown on a single page, making for easy planning. Moon phases are shown and space trivia are included. (Did you know that the first photograph of the sun was taken on April 2, 1845?) We will be selling these appointment books for \$12.95 each. A sample copy will be at the next two meetings for your viewing. Please place your order with Terri or send it to the TAAA PO Box. All orders must be paid for in advance.



**Richardson Elementary  
School Star Party  
4 October, 1994**

Richardson Elementary is looking for 6 - 8 scopes for an "Evening with the Stars." They want us to set up in their playground area and there should be an access gate for entry. The hours of the event are 6:00 to 8:00, so get there a little early if you can to set up.

Please make it if you can, and even if you do not have a scope, you can point out constellations to the kids. Give Dean a call if you can make it so we know who, if anyone, is going to come. We already have 3 events scheduled for November, so come out and get warmed up for the school year!



## Grand Canyon Star Party, 1995

For those who need a little advance notice for their astronomical events, the next Grand Canyon Star Party has been set for the 17th - 24th of June, 1995. Thanks to Paul Dickson and Brian Skiff who researched cloudiness patterns in Flagstaff and determined that pushing it back a week to a darker moon nearly doubled the chance of clouds from monsoon moisture. Make your plans now!

## New Year's in Mexico?

In the never ending drive to find interesting places to observe from, Dean has been debating if there is any interest in a Mexican observing trip. With the Christmas - New Year's holiday falling at the dark of the moon, how about a trip to Pinacate National Park not far southwest of the border from Lukeville. Why the Pinacates? Well, the volcanic rock formations are supposed to be spectacular in their desolation, and it is also only about 30 miles to Rocky Point for some fun day trips to the beach! Also the elevation is lower for more moderate winter observing temperatures. If you are interested or if you have been in the area and know of observing/camping locations, give Dean a call at 293-2855.

## Telescope Donation Sought for Peruvian School

Help introduce some Peruvian kids to the wonders of the sky. The Feathered Pipe Foundation of Helena, Montana, a nonprofit educational organization, is sponsoring a trip to Peru in late October for the total solar eclipse. They would like to take a high quality telescope along to donate to secondary school teacher Alberto Corozo for use by his students.

This is an opportunity for you to upgrade your equipment, avoid the hassle of selling your old scope, and gain a hefty tax deduction. Alternatively, a monetary donation will go toward buying equipment at cost, sponsored by Frank Lopez at Stellar Vision. All donations of equipment or funds are fully tax deductible under IRS 501 (c) (3).

If you are interested, or have any questions, please call Chris Duffield at 795-1445.

# WHAT'S NEW AT



This month's newsletter brings a new feature, a short article reporting on what's going on at Flandrau Science Center. When Flandrau first opened back in 1976, TAAA enjoyed a close relationship with the new planetarium, but due to a variety of factors, this relationship did not remain as close over the years. In an effort to open up communication lines between Flandrau and TAAA, Flandrau's director, Jack Johnson, recently called a meeting with the TAAA Executive and select Flandrau staff. One of the results of that meeting was that a monthly report on the Science Center would appear in Desert Skies. Being the only TAAA member to work at Flandrau in a regular staff capacity, I was of course nominated by all to write the monthly report. Our hope is that a monthly article might not only inform, but build better cohesion between the TAAA and Flandrau Science Center.

Flandrau and TAAA both serve common goals in public science education. In approximately one year, once some scientists vacate "our" room in Flandrau's basement, TAAA and Flandrau hope to better meet these goals by making mirror grinding and telescope making classes available to the public. I see these classes as a tremendous opportunity for public education, and one that shows great potential. Other science centers and planetariums work with area astronomy clubs in this type of outreach, and I would like ours to be first-class in every way. So, if you have the time or expertise, like working with kids or the public, *or if you're just plain interested and want to help*, please contact either myself, Terri Lappin or Dean Ketelsen. Let us know who you are and how you'd like to help. Rank amateurs are especially welcomed! As John Dobson and his cohorts have discovered, public education can be even more rewarding than going out to dark sky country. We hope this to be the case for more than a few TAAA members.

Michael Terenzoni

Outreach Coordinator, Flandrau Science Center

Phone: 621-4515; Voice mail at 621-2001-mailbox #111-1123

## FLANDRAU SHOW FACTS

### *Planetarium Shows*

- Adults-\$4.50
- Children under 13-\$2.50
- Senior Citizens/UA employees/Students all \$4.00 each
- Double Feature \$6.00

### EDUCATIONAL SHOWS NOW PLAYING

Star Trek-Orion Rendezvous  
Touch the Stars  
Inside Lasers

Astronomy News Line \_\_\_\_\_ 621-4310  
Business Office \_\_\_\_\_ 621-4515  
Program info/Show times \_\_\_\_\_ 621-STAR

## OBSERVER'S REPORT

As I write this the skies finally appear to be drying out. Hopefully October will clear out enough for good observing on dark moon weekends this month. September appeared to be a total loss for most Tucson observers. Tom O'Hara, a new member from Michigan, braved the clouds toward end of dark time though, and made the trip to Empire Ranch with his 20" dobsonian. Though cloudy most of the night, Tom reports that the sky cleared out several hours before sunrise giving him the best observing of his life. Let's hope those newly erupting volcanoes in the Pacific don't keep skies from remaining as good or better than those which Tom saw!

Periodic comet Macholtz 2 continues to put on a show for amateur astronomers, and is now in five pieces. Michael Jager of Vienna Austria was the first to report a second "companion" to the primary nucleus just a few days before our September meeting. Soon after, IAU circulars 6070 and 6071 reported three more components. The brightest of the 5 cometary fragments is magnitude 8 and is highly condensed, making it easy to spot, even in large binoculars. This bright "parent nucleus" also has a short tail pointing northwest, which I'm told is an ion tail by Spacewatch team member Jim Scotti. The four other pieces are much fainter at magnitude 11-12. As of last report **none** of these pieces are headed toward Jupiter (Tabloid reports excluded).

Comet Macholtz 2 is in Cancer in the predawn sky and will move east of the Beehive cluster, M44, through early October. To see it you'll have to get up at 4 a.m. (or stay up all night). The moon will be a problem until Oct 2nd, when a 9% illuminated crescent lies 13 degrees east of the comet. The morning after and the 7 days following will offer the best views of the comet as it slowly moves closer to the sun. If you're going to the Chiricahua star party on Oct 1 look for the comet halfway between Regulus and

the Beehive. I've included a map from *Comet Watch* (published by David Chandler Co.) to help you locate the comet. Here are positions for the primary nucleus, in equinox 2000 coordinates for 0 hours UT:

Sept 25	9h 7 min	+20.9°
Sept 27	9h 12 min	+19.5°
Sept 29	9h 18 min	+18.2°
Sept 30	9h 20.1 min	+17.4°
Oct 2	9h 25.3 min	+16.3°

Comet Macholtz 2 is stirring up interest for the general public as well, due to some rumors spread on public radio. Flandrau Science Center started receiving several phone calls on Sept 22 from the public stating that radio personality Paul Harvey claimed on his radio program (on KNST-790 a.m. here in Tucson) that a comet might hit or come very "close" to the earth. A phone call to KNST did not clear up the matter for me as the station did not have that program piece anymore. Somehow the English theorist Stephen Hawking got mentioned in all this, exactly how I'm unsure. Later that day I talked with Jim Scotti at the Lunar and Planetary Lab and was told that he heard Harvey's program in his car and "almost drove off the road". If you've been asked by friends and relatives about this please assure them that the closest Macholtz 2 will ever get to Earth (and not on this opposition) is 0.12 astronomical units (or about 11 million miles). If you'd like to write to Paul Harvey, you can contact him at:

Paul Harvey News  
333 N. Michigan Ave  
Suite 1600  
Chicago, IL 60601  
(No phone number available)

Until next month, clear skies!

Michael Terenzoni

## HERSCHEL'S GARNET STAR

During the cooling nights of October its a good time to lay back with a pair of binoculars and scan the Milky Way high overhead from the starclouds of Cygnus through Cassiopeia. To the north of Deneb in Cygnus lies the "house shaped" constellation of Cepheus the King. Cepheus is the home of some famous variable stars like Delta Cephei the prototype of the cepheids and VV Cephei a large eclipsing system and then there's "Herschel's Garnet Star", Mu Cephei a semi-regular supergiant variable.

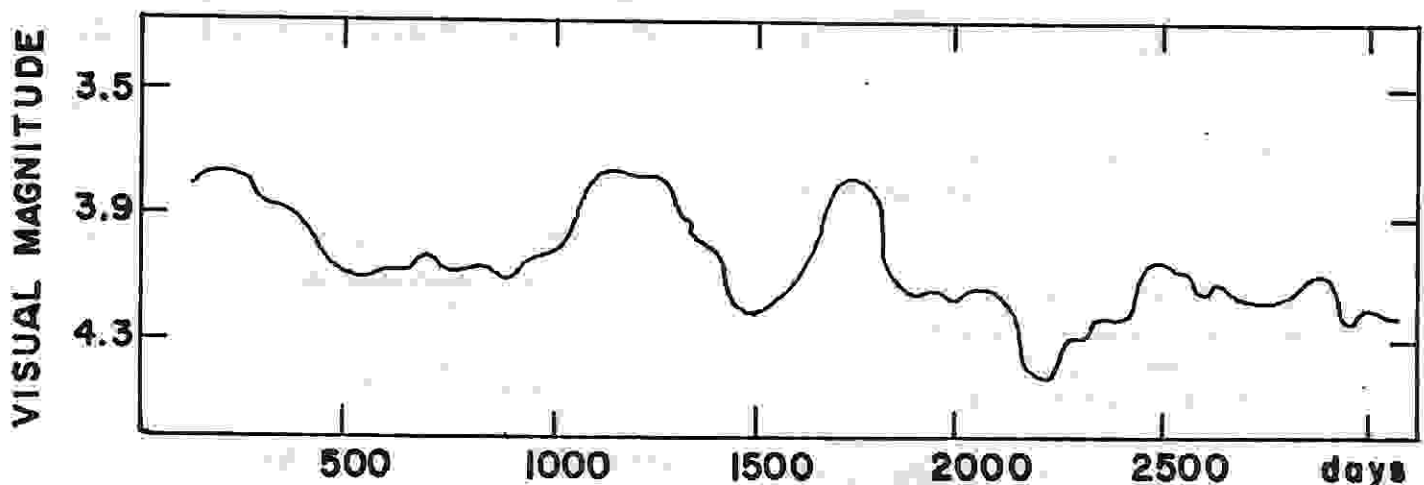
Mu Cephei is very much like Betelgeuse in Orion, it appears dimmer because its much farther away about five times farther at a distance of 2700 light years. Mu Cephei is a huge supergiant star having a diameter of 11 A.U.'s. If it would replace our Sun it would engulf our Solar System out past the orbit of Jupiter. Because Mu Cephei is so large it is very cool having a temperature of 3000°K, cool enough for astronomers to discover steam in its atmosphere. Mu Cephei has a mass of 20 times the Sun's and an enormous volume, it would take 10 billion suns to fill it up.

Mu Cephei has a spectrum of M2 Iae and because its so large it glows with a luminosity of 50,000 suns.

As a variable star Mu Cephei can be readily followed with a pair of binoculars fluctuating in brightness from magnitude 3.4 to 5.1. Although most references report Mu Cephei to be a semi-regular variable in nature, as you can see from its light curve it behaves more like an irregular variable star. The period is usually listed as 730 days although other periods of 900, 1100 and 4500 days have been suggested. What attracts most observers to Mu Cephei is its beautiful red-orange tint, William Herschel noticed this and called Mu Cephei the "Garnet Star". When Mu Cephei is at minimum it truly lives up to its name with a pretty deep red color in a small low power refractor telescope.

Mu Cephei is an old spend thrifty star which is using up its nuclear fuel quickly. So watch this star this Fall and who knows maybe you will be the first to notice Mu Cephei some night when it goes "poof" as a supernova.

Jeff Brydges



MU CEPHEI — An Eight year Light Curve — 1930 — 1938

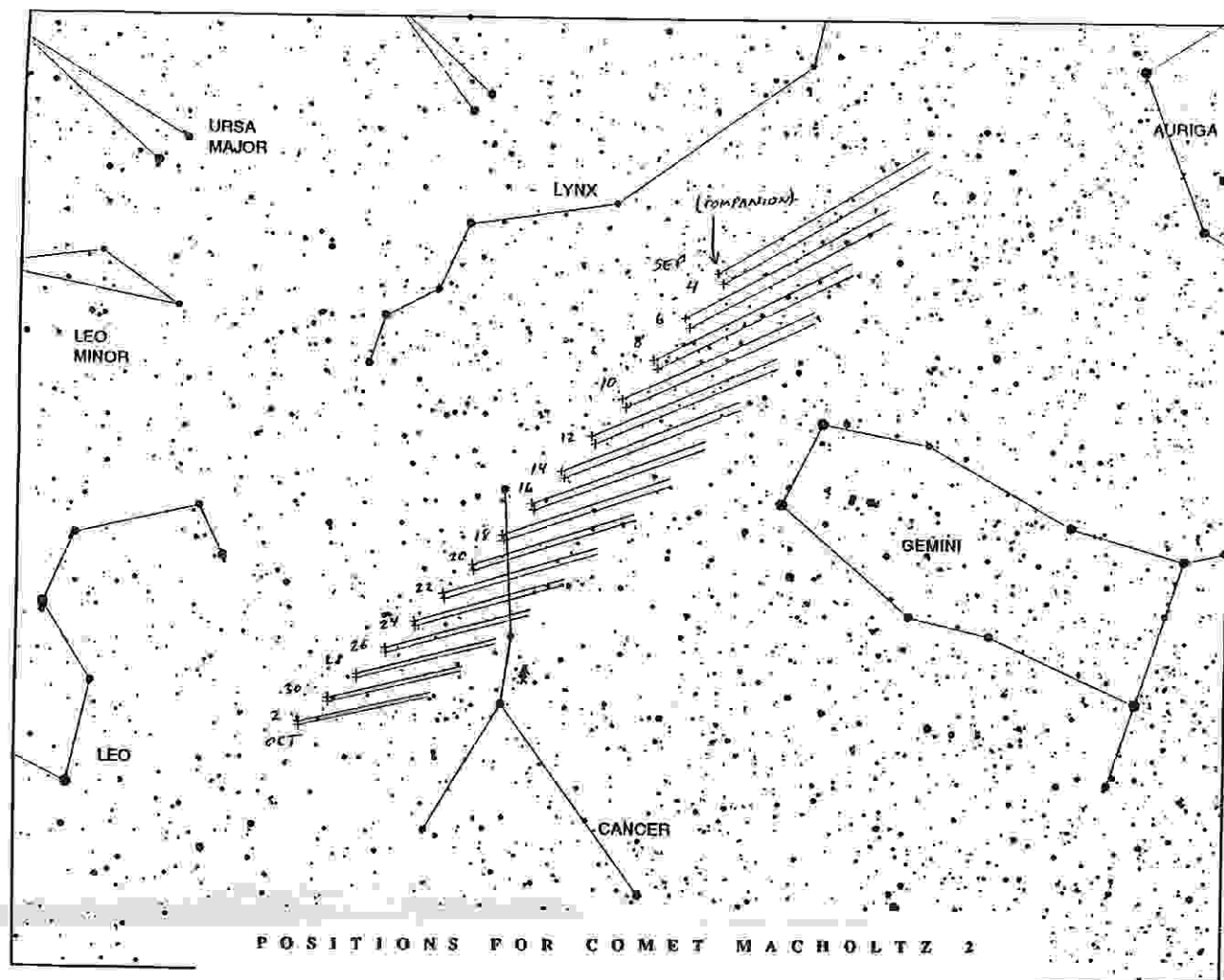


Chart for Mu Cephei

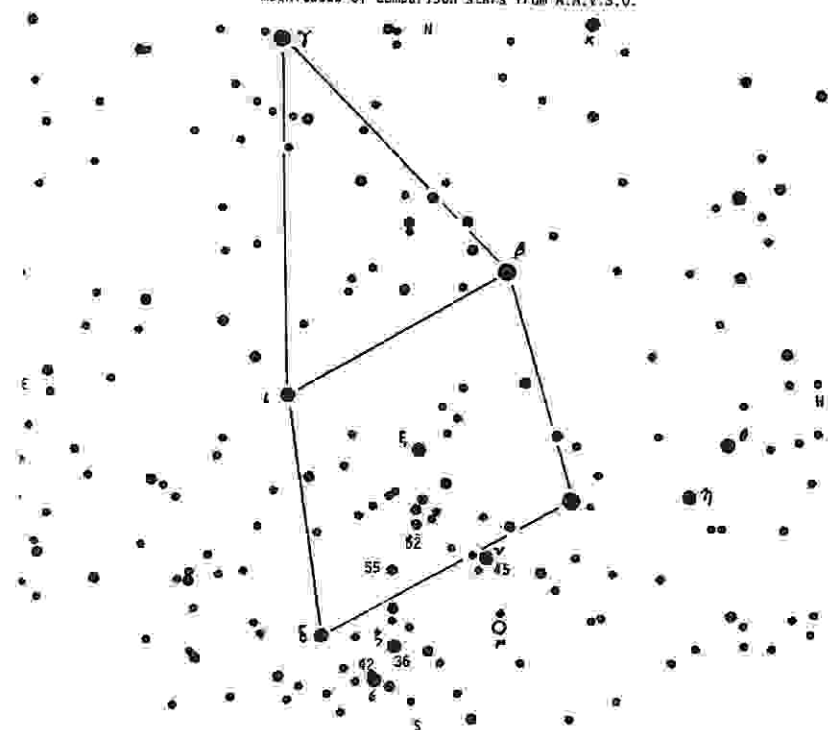
Coordinates: epoch 2000.0 R.A. 21h 43m 30.3s Dec. +58° 46' 48" Type: semi-regular

Range: 3.6-5.1

Period: 730 days ?

Spectrum: M2 Ia

magnitudes of comparison stars from A.A.V.S.O.



## Used Book Sale

On Wednesday, October 5 from 8am to 1pm, the University Library is selling a large collection of discarded books. Hardbacks sell for \$1.50, paperbacks for \$.50 to \$1, and maps, sheet music and records for \$.50. Also available are a selection of special books and sets (priced higher). This is a great chance to pick up some reference books - math or foreign language books are never out of date, right? Show up early for the best selection.



## TAAA Executive Committee Meeting 8 Sep 1994

Present: Dean Ketelson, Tim Hunter, Sharon Niehaus, Duane Niehaus, Terri Lapin, Bob Goff, Dave Harvey, Gary Rosenbaum, Eduardo Vega, & Rob Nyberg.

**I. Banquet:** Final details were reviewed. 131 tickets sold. The press may cover the event. Terri Lapin has had little luck in finding some prior club officials. Whipple's transportation needs are covered. Tim Hunter suggested a cost accounting summary be published in the newsletter following the event. Dean will invite Frank Lopez (Stellar Vision).

**II. Land Concerns:** There have been no new leads in the past 30 days. Dean said he will try to have a "roving" search party in the next month, as the Summer storm recede. Ken Moore, new member, has indicated he is interested in a mutual arrangement in acquiring land. No motions made.

**III. Youth Astronomy Club:** Nina Lehman, who could not attend due to illness, gave a written proposal of her ideas for 3-6th grade level astronomy-oriented children's activities which would run concurrently with the first hour of the monthly general meeting. There was discussion on how to fund an ongoing club. Terri Lapin suggested videotaping our monthly speakers to sell to other clubs. She will send out some letters of interest to clubs around the country. Bob Goff noted Pueblo High School has a media arts program that trains young people in the skills needed to produce professional quality video productions. The contact person is Lora Myers. Dean Ketelsen noted Room 208 is available, which has work tables for projects. He said,

This is a great idea!" and will put something in the newsletter for November. (A copy of Lehman's proposal is

included with these minutes.)

### IV. Upcoming events

A. Oct. general meeting speaker will be Guy Consolmagno, author of Turn Left at Orion, on star hopping and the joys of using small telescopes. Lin Prior will give the beginner's lecture on "Light Pollution: An Amateur's Perspective". It was noted by consensus that Mike Terenzoni's talk last month was excellent.

B. Border Volunteer Corps Star Party, Sep 14, 1994 (Wed) @ Oracle: 6 signups from club. We will receive \$100 for this effort.

C. Chiricahua Campout and Star Party, 1 Oct 94 will be organized and occur as in previous years.

D. Other speakers proffered were: Fr. Bob McCarthy; Bom Strom (on Venus); James McGaha; Peter Strittmater; Frank Low; someone from IOTA @ Whipple; an attendee at the Jan. AAS meeting.

**V. Treasurer's Report:** Total \$31,036.03 in all accounts as of today. Some new members enrolled at old rates, because they used old TAAA flyers. New flyers have been printed and distributed. Terri Lapin moved to accept these few (Duane Niehaus estimated less than 5) at the old rate of \$20/yr. David Harvey seconded. The motion carried 6 to 2.

**VI. Fundraising News:** none

**VII. Astronomical League:** After discussion of AL and ALCOR functions and the TAAA/AL relationship as it is and might become, Bob Goff volunteered to be ALCOR.

**VII. Other Business:** The topic of the re-organization was tabled.

The meeting was adjourned at 9:20 PM.

## Desert Skies Classified

**House for Sale:** w/ astronomical observatory on 1 acre site in Green Valley. 3 BR, 3 Bath, swimming pool, 2400 sq ft. Observatory is 12'X12' building with 2 meter motorized aluminum dome, cement pier ready for your telescope - Dark Skies! Owner is TAAA member Randy Quiroz, price \$230,000. For further information, call Everett Real Estate, Green Valley, 625-8998 - MLS#11253.(10-94)

**Free to Good Home:** Old Heath/Zenith computer (64K Ram) with 2 disk drives. Formerly owned by Dr. Nick Sanduleak (one of the S's in SS433 and the discoverer of the precursor of SN 1987). Comes with gobs of software and disks (10RH) including several basic compilers, fortran compiler, and some astronomical programs. If you know someone in need of an entry level machine or a word processor, this is it. Rik Hill 721-0123. (11-94)

**For Sale:** 8" F/20 Tri-schiefspiegler (Buchroeder Design). Some of you may have observed through this scope at a gab fest Near Three Points a few years back. The owner died and the fellow storing it needs to recover storage fees. The equatorial mounting is very heavy duty (observatory quality) with electronic slow motion. The fellow selling it doesn't know telescopes, but it should be complete with finder and eyepieces. Before dying the owner specified that it be sold for \$6500, but after storing it for years, the fellow wants \$2500 (a real steal). It is still in storage in Three Points - call Ken at 822-2222. (11-94)

**For Sale:** Questar 7", superb condition. Sell or trade for Chevy Suburban or equivalent. Mario Sibilli 327-0665. (11-94)

**Wanted:** David J. Eicher's book "Deep Sky Observing with Small Telescopes" Gilbert Friedman, 571-1662. (11-94)

**For Sale:** Panasonic PC clone, 8086-2, 64K ram, 20MB hard drive, VGA color monitor, printer, \$200. Large collection of surplus optics: mirrors, flats, microscope objectives, etc. Ron Price 742-5703.(12-94)

Your ad will run for 4 months unless specified. Month and year of last appearance is last item of ad. For additions or changes to this list call Dean, 293-2855.

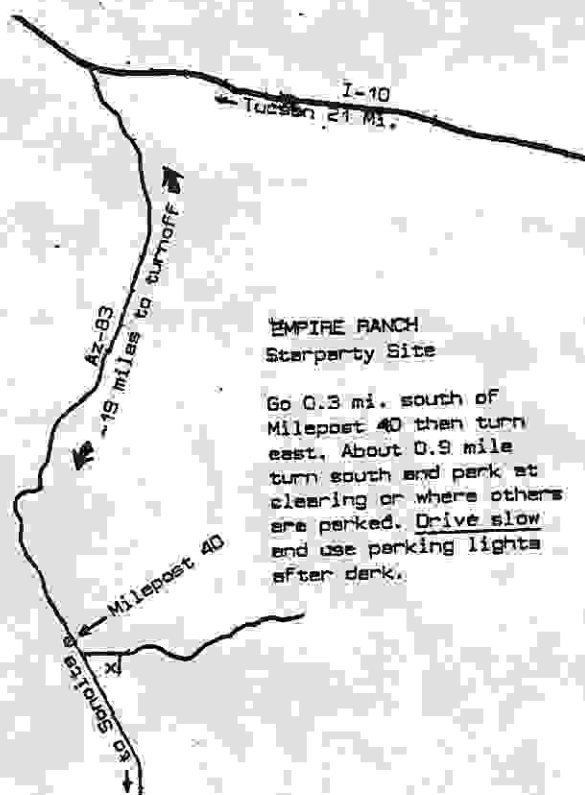
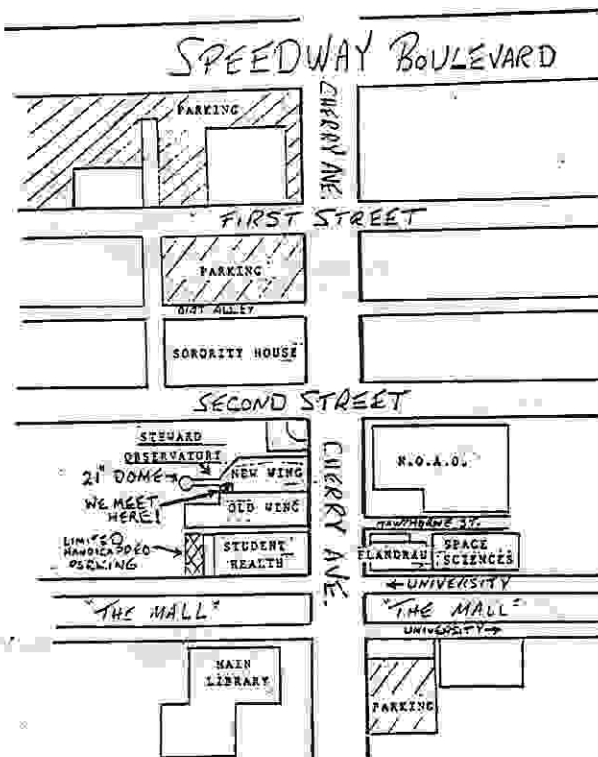
# DARK SKIES for Tucson (in MST)

1994 OCTOBER no twilight  
no moonlight

Sa/Su	1/ 2	7:30pm - 3:36am
Su/Mo	2/ 3	7:29pm - 4:40am
Mo/Tu	3/ 4	7:27pm - 4:58am
Tu/We	4/ 5	7:26pm - 4:59am
We/Th	5/ 6	7:25pm - 5:00am
Th/Fr	6/ 7	7:23pm - 5:00am
Fr/Sa	7/ 8	8:04pm - 5:01am
Sa/Su	8/ 9	9:00pm - 5:02am
Su/Mo	9/10	9:59pm - 5:03am
Mo/Tu	10/11	11:00pm - 5:03am
Tu/We	11/12	12:02am - 5:04am
We/Th	12/13	1:03am - 5:05am
Th/Fr	13/14	2:02am - 5:05am
Fr/Sa	14/15	2:59am - 5:06am
Sa/Su	15/16	3:55am - 5:07am
Su/Mo	16/17	4:50am - 5:07am
Mo/Tu	17/18	- - -
Tu/We	18/19	- - -
We/Th	19/20	- - -
Th/Fr	20/21	- - -
Fr/Sa	21/22	7:06pm - 7:13pm
Sa/Su	22/23	7:05pm - 7:56pm
Su/Mo	23/24	7:04pm - 8:43pm
Mo/Tu	24/25	7:03pm - 9:33pm
Tu/We	25/26	7:03pm - 10:26pm
We/Th	26/27	7:02pm - 11:21pm
Th/Fr	27/28	7:01pm - 12:19am
Fr/Sa	28/29	7:00pm - 1:18am
Sa/Su	29/30	6:59pm - 2:20am
Su/Mo	30/31	6:58pm - 3:23am
Mo/Tu	31/ 1	6:57pm - 4:30am

Erich Karkoschka

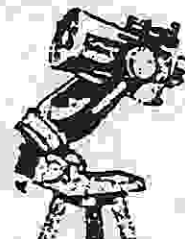
## TAAA Meeting Location



## Tucson's Complete Astronomy Shop

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