



# *Desert Skies*

*Tucson Amateur Astronomy Association*

Volume LVII, Number 7

July, 2011



**Horsehead Dark Nebula  
in Orion**

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- Constellation of the Month – SerpensCaput/Serpens Cauda
- ALCON 2011 – Bryce Canyon
- Solar Filter Workshop

**Cover Photo:** The Horsehead Nebula was taken by Lou Faix. Included in this newsletter is a section where we remember the life of Lou and his contribution to Amateur Astronomy.

TAAA Web Page: <http://www.tucsonastronomy.org>

TAAA Phone Number: (520) 792-6414

Office/Position	Name	Phone	E-mail Address
President	Keith Schlottman	250-1560	president[at]tucsonastronomy.org
Vice President	Bill Lofquist	297-6653	vice-president[at]tucsonastronomy.org
Secretary	Teresa Plymate	883-9113	secretary[at]tucsonastronomy.org
Treasurer	John Croft	260-4687	treasurer[at]tucsonastronomy.org
Member-at-Large	Claude Plymate	883-9113	mal1[at]tucsonastronomy.org
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Chief Observer	Dr. Mary Turner	743-3437	chief-observer[at]tucsonastronomy.org
AL Correspondent (ALCor)	Paul Anderson	625-5035	alcor[at]tucsonastronomy.org
Community Event Scheduler	Bill Lofquist	297-6653	school-star-party[at]tucsonastronomy.org
Volunteer Coordinator	Bill Lofquist	297-6653	school-sp-volunteers[at]tucsonastronomy.org
TIMPA Gate Card controller	John Kalas	620-6502	timpa[at]tucsonastronomy.org
Chiricahua Astronomy Complex Dir.	John Kalas	620-6502	cac-director[at]tucsonastronomy.org
Newsletter Editor	Terri Lappin	977-1290	taaa-newsletter[at]tucsonastronomy.org
Web Director	Terri Lappin	977-1290	webmaster[at]tucsonastronomy.org
Publicist	Liz Kalas	620-6502	publicist[at]tucsonastronomy.org
Astro-Imaging SIG	Larry Phillips	777-8027	astro-photo[at]tucsonastronomy.org
Astronomy Fundamentals SIG	Ben Bailey	903-7925	fundamentals[at]tucsonastronomy.org
Starry Messenger SIG	Terri Lappin	977-1290	smsig[at]tucsonastronomy.org
Space Exploration SIG	Al Anzaldua	409-5797	sesig[at]tucsonastronomy.org
Club Apparel Sales	Mae Smith	850-7137	taaa-sales[at]tucsonastronomy.org
Equipment Loan Coordinator	Al Dohner	297-7118	elc[at]tucsonastronomy.org
Librarians	Claude & Teresa Plymate	883-9113	librarian[at]tucsonastronomy.org
Grand Canyon Star Party Coordinator	Jim O'Connor	546-2961	gcsp[at]tucsonastronomy.org
General Information	Teresa Plymate	883-9113	taaa-info[at]tucsonastronomy.org

#### Membership in the TAAA

##### Annual Fees

Individual membership .....	\$25.00
Family (includes two adults plus minor children) .....	\$30.00
Youth under 18 years must join as a family upon parental or guardian acknowledgment of participation in TAAA events. Ask the Treasurer for the required form.	

##### Discounts (one discount allowed, subtract from above rates)

Seniors (over 60 years) .....	\$2.00
College Students, Teachers (K - 12) .....	\$8.00
Youth under 18 yrs. (form required, contact the treasurer) .....	\$13.00

##### Options (add to above membership rates)

Tucson society of the Astronomical League (TAL) fees .....	\$ 7.50
Sky & Telescope Magazine 1 year (12 issues).....	\$32.95
Astronomy Magazine 1 year (12 issues).....	\$34.00
2 years (24 issues).....	\$60.00
Postage for New Member Pack .....	\$ 4.80

**Donations** are accepted for the following funds: SA-IDA/Light Pollution, TIM-PA, Education, TAAA Astronomy Complex, and General/Undesignated.

##### Renewal Information

- You'll get an email reminder when it's time to renew.
- TAAA members may join the Tucson society of the Astronomical League (TAL) at the time they join or renew.

- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Rates are given above. Allow 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the magazines.* To change an individual subscription to the group rate, pay the subscription amount to the TAAA treasurer. Include your magazine renewal notice.

- Please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for fees plus any options or donations. Make it payable to TAAA and send to: Tucson Amateur Astronomy Association; PO BOX 41254; Tucson, AZ 85717

**Mailing Address or Email Changes** – Send to address above or email the treasurer.

**TAAA Mission Statement** – The mission of the Tucson Amateur Astronomy Association is to provide opportunities for members and the public to share the joy and excitement of astronomy through observing, education and fun.

**Desert Skies Publishing Guidelines** – All articles, announcements, news, etc. must be submitted by the newsletter deadline. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Submissions should be submitted in Word compatible files via e-mail or on a recordable media.. All material copyright Tucson Amateur Astronomy Association or specific author. No reproduction without permission, all rights reserved. We will not publish slanderous or libelous material!

TAAA/Desert Skies Editor  
taaa-newsletter[at]tucsonastronomy.org

#### Join the TAAA Forum on Yahoo Groups

- <http://tinyurl.com/hwoau> (general astronomy discussion, posting allowed, 75/month) Click on "Join this Group".

Desert Skies is published monthly by the  
Tucson Amateur Astronomy Association, Post Office Box 41254, Tucson AZ 85717.

### TAAA General Meeting Information—July 1st

**TAAA MEETING DATE:** Friday, July 1st, at the Steward Observatory Auditorium Room N210

**Astronomy Essentials Lecture:** 6:30 pm

Title: *Starry Messengers SIG*

Speaker: Terri Lappin

Sharing the astronomy experience with others helps encourage them to pursue astronomy as a hobby and can foster a young child's interest in the sciences. It's a fun way to give back to society, and at the same time enjoy your hobby. Terri Lappin will talk about outreach opportunities through the TAAA and how you can become involved in outreach through the Starry Messenger SIG.

**GENERAL MEETING:** 7:30 pm

Invited Lecture

Title: *Exploring Mercury: the Iron Planet*

Speaker: Dr Robert Strom, UA Lunar & Planetary Lab

In August 2004, the Messenger spacecraft was launched aboard a Boeing Delta II rocket, bound for Mercury. Getting to Mercury and staying in orbit is tricky due to the planet's proximity to the Sun. It's a harsh environment! The only other spacecraft to have visited Mercury was Mariner 10 back in 1974 and 1975. It photographed about half of the surface of Mercury during three passes and discovered Mercury's thin atmosphere and magnetic field. Since then, planetary scientists have had to rely on ground based observations for further investigation.

However Mercury is always near the sun, so ground based images are never sharp. The Hubble Space Telescope can't image Mercury, either, since it's too close to the sun. Over 6 years after launch, and following multiple flybys of Earth, Venus, and Mercury, the Messenger spacecraft finally settled into orbit around Mercury in March 2011. It has already dazzled planetary scientists.

Dr Robert Strom, UA LPL Professor Emeritus, was a member of the Mariner 10 science imaging team, and is a member of the Messenger mission. In fact, he's the only person on the Messenger team who was also on the Mariner 10 team. He has patiently waited for a return mission to Mercury, and is now enjoying a wealth of data about this mysterious inner planet of our solar system.

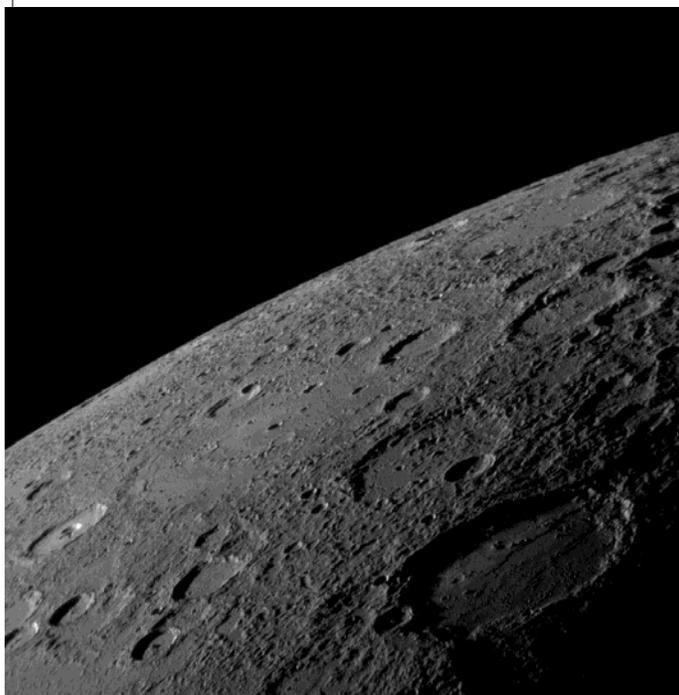
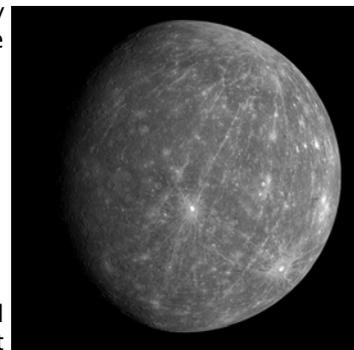


Dr Strom will talk to us about the general characteristics of Mercury and new results from the three Mercury flybys and first three months in orbit. He'll discuss the cratering record, volcanism, the tectonic framework, the topography, the magnetic field and the first results on the composition of Mercury's surface. He'll present evidence for relatively recent faulting and volcanic activity and will discuss some unique tectonics of basin interiors.

We are privileged to have an expert Mercury planetary scientist speak at our meeting.

This should be a fascinating lecture!

Note: University Blvd will be closed in both directions on July 1st between Campbell and Cherry.



**BOARD OF DIRECTORS MEETING:**  
Wednesday, July 13th, 6:30 pm  
Steward Observatory Conference Room N305

## Calendar of Events

### STAR PARTIES AND EVENTS:

29 June – 2 July ALCON 2011 – Bryce Canyon

1 July – TAAA General Meeting

2 July – CAC Star Party

13 July – TAAA Board Meeting

14 July – AFSIG Meeting

16 July – AFSig Solar Observing Group

20 July – Newsletter Article Deadline

23 July – AFSig Star Party at TIMPA

30 July – CAC Star Party Canyon

30 July – Afsig Solar Filter Workshop

### NEWSLETTER SCHEDULE

Deadline for articles: Wednesday, July 20th. The newsletter is published at least one week prior to the following month's General Meeting.

This is my last newsletter as editor of the TAAA Newsletter. While it has been a great experience serving you in this capacity, I am moving forward in the TAAA to serve further in the educational outreach areas of Starry Messenger SIG and AFSIG programs. I look forward to seeing you all at the TAAA meetings.

### TAAA Apparel

Looking for a special gift or a way to make that fashion statement? Try on something from our fine line of club apparel. We have hats, T-shirts, denim shirts, and patches. We take cash and checks.

## Club News

### Member News

We welcome these members who have recently joined the TAAA: Christopher Cokinos, Eric and Roberta Allen, Kathy Blanchard, George Hatfield, Davie Kiefner, and Debra Lazar-Pearl. Glad to have all of you join! Hope you'll make it to our star parties and/or meetings so we can all get to know you. (Updated membership lists are available at our website after logging in as a member.)

### Astro-Imaging SIG Meeting

Monday, July 11

China Rose Restaurant, NE corner Speedway/Rosemont

Larry Phillips is the new SIG coordinator and will be assisted by Peter Lammers. The group will be placing more emphasis on the less experienced imagers. Our presentations feature CCD images, planetary webcams, and film. July's meeting would fall on the 4th of July, so we will meet one week later on July 11th. We have learned that China Rose is closing its doors as of July 15th, so we need a new meeting location. Send suggestions to Larry Phillips at [larryphillips@tucsonastronomy.org](mailto:larryphillips@tucsonastronomy.org)

NOTE SPECIAL MEETING DATE DUE TO HOLIDAY

### Space Exploration Special Interest Group (SESIG)

By Al Anzaldua

SESIG has suspended its presentation program until September 22, at which time Raytheon space engineer, Phil Eklund, will give a slide presentation titled, The High Frontier: Exploiting Inner Solar System Resources. Mr. Eklund's presentation will take place promptly at 6:30 pm in the large conference room at the Woods Memorial Branch Library, 3555 N. 1st Ave., just south of Prince Road. Sign-up sheets for Eklund's talk will be provided at the general membership meetings. You can also RSVP by contacting Al Anzaldua at 520-409-5797 (cell) or [alanzaldua@tucsonastronomy.org](mailto:alanzaldua@tucsonastronomy.org).

### Solar Filter Workshop

Bob Gilroy – July 30<sup>th</sup> 9 am – 12 noon

Location: TBA

The AFSIG will be holding a solar filter workshop on Saturday, July 30 from 9:00 am to 12:00 noon. During the workshop, you will make and use a white-light solar filter for your telescope, at a very modest cost. This will be followed by an afternoon solar observing session, if you can stay.

To help us prepare, please email Robert Gilroy [bobgilroy@tucsonastronomy.org](mailto:bobgilroy@tucsonastronomy.org) or sign up at the next TAAA meeting on July 1. Let me know the aperture and type of telescope you plan to use, so that we can plan to have enough Baader film for everyone's scope.

Want better observing?  
Join the group that's keeping the sky dark  
International **Dark Sky** Association  
Southern Arizona section

We get people to use better lighting, so  
we'll have a dark sky

#### Monthly meetings

2nd Wednesday, 5:30 – 7 pm.  
3225 N. First Ave

Some of the things we do:

- Talks to schools and organizations
- Demonstrations at Desert Museum
- PowerPoint presentations on CD
- Work with government agencies
- Identify non-compliant lighting in Southern Arizona

Contact: Joe Frannea: [sky@sa-ida.org](mailto:sky@sa-ida.org)  
[www.sa-ida.org](http://www.sa-ida.org)

To preserve and protect the nighttime environment and our heritage of dark skies through quality outdoor lighting

## Club News (cont.)

**Astronomy Fundamentals Special Interest Group (AFSIG)**

Thursday, July 14th, 6:30 pm

U.S.G.S. Building - Room 253 - Northeast corner of Park Avenue and Sixth Street—(Free parking after 5:00 pm behind the building in the parking lot.)

We will hold our regular monthly AFSIG meeting for July on the 14th. Remember, we are successful only if you participate. I am looking forward to seeing you there. The Astronomy Fundamentals special interest group meets on the 2nd Thursday of every month with some stimulating discussions from both the TAAA members and members of the scientific community. In addition, when we launch a new observing program, we have a presentation about that program discussing the history, folklore and the necessary requirements to complete the program. For general information about the AFSIG, contact Ben Bailey at benbailey[at]tucsonastronomy.org.

**AFSIG Observing Clubs**

AFSIG Observing Clubs are open to all members of TAAA at no charge. They are guided programs which means that at the scheduled observing sessions, there is someone there to guide you in finding the objects/features needed for successful completion of the program. You can join the programs at any time and can either attend the guided sessions or work on your own. A certificate is awarded at the completion of all the requirements. All observing programs are patterned after those of the Astronomical League, so you can continue on to complete the additional requirements and get you AL certificate.

**Solar Observing Club** meets on the 3rd Saturday of every month from 9 am until noon at Fort Lowell Park (Craycroft at Glenn) near the southeast corner. The purpose of this club is to observe the activity that is occurring on the Sun and record those observations - like sunspots, solar flares and other interesting features. The beauty of this observing program is that our Sun offers great flexibility in observing and re-cording the different features - you don't have to be concerned about light pollution, night vision, or traveling great distances to find dark skies. If you are interested in participating in the Solar Observing Program or if you just want to be added to our email list to keep posted about our activities and solar news email Dennis Dawson at dennisldawson[at]gmail.com.

**Lunar Observing Club** meets sporadically depending on schedule compatibility and the moon cycle. The purpose of this club is to identify and log 30 specified lunar features - some of which are easy while others are more difficult. This is a great club in which to participate in as it is ideal for observing from your back yard or patio. Dark skies are not really necessary and some features are even visible through light clouds. If you are interested in participating in the Lunar Observing Club or if you just want to be added to our email list to keep posted about our activities email Robert Gilroy at bobgilroy[at]tucsonastronomy.org.

**Constellation Observing Club** meets monthly on our regularly scheduled TIMPA night. The purpose of this club is to identify and log 20 constellations, their brightest stars and deep sky objects. This is a great way to learn your way around the night sky. If you are interested in participating in the Constellation Observing Club or if you just want to be added to our email list to keep posted

about our activities email Paul and Cathy Anderson at paulanderson[at]tucsonastronomy.org

**Solar System Observing Club** meets monthly on our regularly scheduled TIMPA night. The purpose of this club is to observe and log the different features and actions of the planets and their moons and other interesting solar system objects. If you are interested in participating in the Solar System Observing Club or if you just want to be added to our email list to keep posted about our activities email Mike Finerty at mfinerty1[at]msn.com.

**Double Star Observing Club** meets monthly on our regularly scheduled TIMPA night. The dark night sky is filled with millions and millions of stars. Some are close by (relatively speaking) but most are far away. Some are single stars (like our sun) but others are multiple star systems. Of these multiple star systems, we can detect and split many double stars with our equipment. The purpose of this club is to observe and log the different types and colors of double stars. If you are interested in participating in the Double Star Observing Club or if you just want to be added to our email list to keep posted about our activities email Tom Watson at watson1987[at]cox.net.

**YOUNG ASTRONOMERS PROGRAM**

AFSIG is looking for families with children 7 to 17 to participate in our Young Astronomers Program. Because of the different maturity levels, The Young Astronomers Program consists of two different programs or clubs:

**Astronomer Cadet** - for children 7 to 10 years old  
There are a lot of other objects in the sky besides stars: galaxies, star clusters, globular and open clusters. There are planets and moons and asteroids and comets - just to mention a few. The **Astronomer Cadet** program is designed to capture the interest and to motivate the younger child.

**Detective Astronomer** - for older children and young adults

All is not what it seems out there in the universe. Is the sky really moving? Why are there two north poles? There are planets, and even some moons that have an atmosphere. Some planets have rings...some don't. Some stars are large while others are small and then there are stars that change their brightness. The **Detective Astronomer** program goes into greater depth to encourage and motivate older children and young adults.

This program will use hands-on projects to discover the wonderful world of Observational Astronomy. They will solve puzzles, play games use binoculars, operate telescopes and, most of all, have fun. No equipment is needed but will probably be desired. Binoculars and telescopes will be provided. Spread the word to family, friends and associates to come and join us. The parents and all adults will enjoy this as well. Let us enjoy this hobby as a family. We are going to be launching this program this Fall - probably in September. For more information, please contact Robert Gilroy bobgilroy[at]tucsonastronomy.org

## Club News (cont. )



## Night Sky Network Toolkits

NASA, through sponsorship of the Night Sky Network, recognizes the essential role amateur astronomers play in public astronomical education. Under contract with NASA, the Night Sky Network team at the Astronomical Society of the Pacific has developed a series of toolkits for amateur astronomers to use in informal settings such as star parties and other outreach events. Below is a list of our

Outreach Toolkits. If your scope is not well-suited for public events, or if you want a change of pace, consider bringing a toolkit to a community event. Toolkits are also great backups for cloudy nights. Each themed toolkit contains several projects; you pick and choose what you want to use. Toolkits are self-contained with nearly all the materials needed for these hands-on projects. You may need to provide fresh batteries, scissors, or a bag of flour, depending on what project you select. A Resources CD and a Training DVD is included. Individual training in their use is available upon request. Please make arrangements with Terri Lappin (smsig[at]tucsonastronomy.org) to borrow these toolkits. Normally, you can keep a toolkit for a month at a time.

## Our Night Sky Network Toolkits:

**Space Rocks – Asteroids, Comets, and Meteorites:** meteorite samples, asteroid detection

**Exploring the Solar System:** scale model of solar system

**Our Galaxy, Our Universe:** scale model of the Milky Way galaxy and the Universe

**Shadows and Silhouettes:** lunar phases, eclipses, and transits

**Black Hole Survival Kit:** gravity concepts

**Supernova!:** life cycle of massive stars, earth's protective atmosphere

**Mirrors and Glass – An inside look at telescopes:** how telescopes work

**Telescopes – Eyes on the Universe:** basic principles of optics, the human eye, and observing

**PlanetQuest:** demonstrate planet detection techniques

## Other Resources:

**SolarScope:** provides a white light image of the sun suitable for small group viewing.

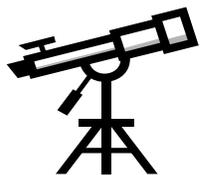
**Dark Skies Education Kit:** light pollution principles, includes a Sky Quality Meter

**Comet Chef:** an apron (with a comet on it) and chef's hat to wear when mixing up comets

**Moon Globe:** 12" diameter with stand

**DVDs:** *A Private Universe; Cosmic Collisions*

## Telescopes for Borrowing



Free service



Only for Members

*Don't own a telescope?*

*Our Loaner Program is your answer!*

These telescopes are in the program

Sears 60mmf/15 on equatorial mount

Unitron 62mmf/14.5 on equatorial mount

Meade 90mm ETX

Coulter Odyssey8 8-inch f/4.5 Dobson

Meade10-inch f/4.5 on equatorial mount

Meade 10" LX200 GPS (requires training session)

Beginners, here's your chance to learn and observe the sky before buying any equipment. The Loaner Program is available to any current member after meeting requirements detailed in the TAAA Loan Policy. Contact the Equipment Loan Coordinator (see page 2) or any club officer for details about these telescopes.

## WEBSITES: TRIPS ON THE INTERNET SUPER-SKYWAY

By Rik Hill

## Charting your way

When I got out of the Navy in 1972 one of the first things I purchased was the most comprehensive set of star charts then available, the Skalnate Pleso also known as the Atlas Coelhi (Atlas of the Heavens) or the "Becvar Atlas". It was the best general atlas available at that time and I spent hours pouring over its space locating and labeling double stars and enjoying many cloudy night in Michigan with the sky spread before me on a table. Many atlases have come out since then that are either specialized, go to fainter magnitudes and cost much more. But today it is not necessary to purchase a paper atlas, or even pay for one, if you have a computer particularly a laptop. There are many good free atlases available online that you can download to your computer and have available whether you're on or off-line.

Most amateur astronomers once they have a rudimentary knowledge of the evening sky will seek out star maps and charts that go to the limit of their vision out at the darkest skies. The Mag 7 Star Atlas Project satisfies this requirement very nicely.

The entire atlas is downloadable at either of two locations: [http://www.archive.org/details/Mag\\_7\\_Star\\_Atlas](http://www.archive.org/details/Mag_7_Star_Atlas) or within the Cloudy Nights Forum Review at: [http://www.cloudynights.com/item.php?item\\_id=1052](http://www.cloudynights.com/item.php?item_id=1052)

This will provide you with a very nice set of charts either in color or black-and-white that you can load into your computer and have with you at all times. On these charts all the Messier objects as well as the brighter NGC objects are shown in outline and the brighter and more prominent double stars are noted though not labeled. Constellations are also outlined in classic form making it easy to use these at the telescope.

Going a little deeper is ToshimiTaki's 8.5 Magnitude Star Atlas which can be downloaded at: [http://www.geocities.jp/toshimi\\_taki/atlas\\_85/atlas\\_85.htm](http://www.geocities.jp/toshimi_taki/atlas_85/atlas_85.htm) both with or without constellation lines. This shows many more stars and quite a few more deep sky objects as well. Variable stars are also shown that have a maximum of 8.5 magnitude or brighter.

If this does not show you enough there's the TriAtlas Project by José Ramón Torres and Casey Skelton. This Atlas goes to better than 12.6 magnitude and is crammed full of deep sky objects, variables stars, double stars and all manner of other objects for observing too numerous to list here. It is downloadable at their website: <http://www.uv.es/jrtorres/triatlas.html>

Lastly, is my favorite, HNSky or the "Hallo Northern Sky" planetarium program. It is staggering that this is free! It can do almost anything *The Sky* can do including interfacing with go-to telescope systems. It's limiting magnitude depends on what database you use. It comes with the SAO and Tycho catalogs embedded in the program. But if you can get a hold of a copy of the Hubble Space Telescope Guide Star Catalog discs you can go to the limit of those. It has the entire NGC catalog as well as the Messier catalog, the entire current General Catalog of Variable Stars (GCVS), the planets plus 10,000 asteroids, updates to the minute and much, much more. Hundreds of deep sky objects are shown with two - scale images on the star charts. The only criticism I would have here is that they use deep TIFF image format which makes for slow loading. Even so, I use this atlas all the time and recommend it highly. Go to the website: <http://www.hnsky.org/software.htm>

So as we hopefully face the prospect of a good rainy monsoon (we need the rain desperately) you can delightfully pursue your hobby with these new sky charts in your computer, where it is always clear.

As always, if you know of a particularly good website you would like mentioned here, drop me a line at: [rhill@lpl.arizona.edu](mailto:rhill@lpl.arizona.edu)

Dark Skies for July 2011  
By Erich Karkoschka

No twilight, no moonlight)  
for Tucson in 24-hour MST  
18hrs=6pm, 20hrs=8pm  
22hrs=10pm, 0hrs=midnight

Day	Date	Dark Time
Th/Fr	30/01	21:15 - 3:41
Fr/Sa	01/02	21:15 - 3:41
Sa/Su	02/03	21:14 - 3:42
Su/Mo	03/04	21:21 - 3:42
Mo/Tu	04/05	21:57 - 3:43
Tu/We	05/06	22:32 - 3:44
We/Th	06/07	23:07 - 3:44
Th/Fr	07/08	23:43 - 3:45
Fr/Sa	08/09	0:23 - 3:46
Sa/Su	09/10	1:06 - 3:46
Su/Mo	10/11	1:55 - 3:47
Mo/Tu	11/12	2:50 - 3:48
Tu/We	12/13	- -
We/Th	13/14	- -
Th/Fr	14/15	FULL MOON
Fr/Sa	15/16	- -
Sa/Su	16/17	- -
Su/Mo	17/18	- -
Mo/Tu	18/19	21:07 - 21:30
Tu/We	19/20	21:06 - 21:58
We/Th	20/21	21:05 - 22:27
Th/Fr	21/22	21:05 - 22:58
Fr/Sa	22/23	21:04 - 23:30
Sa/Su	23/24	21:03 - 0:06
Su/Mo	24/25	21:02 - 0:47
Mo/Tu	25/26	21:01 - 1:33
Tu/We	26/27	21:00 - 2:26
We/Th	27/28	20:59 - 3:24
Th/Fr	28/29	20:58 - 4:03
Fr/Sa	29/30	20:57 - 4:04
Sa/Su	30/31	20:56 - 4:05

## MEMBER EVENTS

### **TAAA Star Party at CAC**

by John Kalas

Saturdays, July 2 and 30

The Chiricahua Astronomy Complex (CAC) is the club's newest observing site. Located in Cochise County approximately 100 miles from the center of Tucson, the site includes a full bathroom facility. At an elevation of 4800 feet, be prepared for cold temperatures. Try to arrive before sunset. Unlike TIMPA, the CAC site requires that members make reservations for both monthly club star parties and private member use. We are restricted by a 60 person/30 vehicle maximum limitation. If you would like to attend, contact CAC Director John Kalas via e-mail at [jckalas\[at\]cox.net](mailto:jckalas[at]cox.net) or by phone at 620-6502. Reservations will be on a first come - first serve basis. Depending on the number of members interested in attending, guests may not be allowed.

#### Directions to CAC:

- The Chiricahua Astronomy Complex is about 90 miles and a 1½ hour drive from the TTT Truck stop at Craycroft Road and Interstate 10.
- Take I-10 East from Tucson past Benson.
- Exit I-10 at Dragoon Road (Exit #318) - Turn right onto Dragoon Road at bottom of exit ramp.
- Travel 13.5 miles southeast to intersection with Route 191 and turn right (south).
- Travel 17.9 miles south (past Sunsites and Margie's Corner Café at High St. on the right and Border Patrol checkpoint) to intersection with Route 181 at Sunizona and turn left (east).
- Travel 10.9 miles east to intersection with S. Price Ranch Road and turn right (south). S. Price Ranch Rd. is a dirt road just before you reach mile post 49 (cluster of mailboxes on right on Rte. 181).
- Travel ½ mile south on S. Price Ranch Rd. to intersection with E. Perseus Way (wide dirt road with E. Perseus Way street sign on left) and turn left (east).
- Travel east on E. Perseus Way slightly more than ¼ mile to entrance of Chiricahua Astronomy Complex, address 9315 on right (twin brown gates flanked by white rail fences set back 50 feet from road). Look for TAAA sign on left side of entry road.

### **TAAA and AFSIG Star Party at TIMPA**

By Ben Bailey

Saturday, July 23

Come on out and enjoy the summer skies! TIMPA star parties are great for both beginners and experienced observers. Our novice members can get help with observing issues or equipment problems, as there are many experienced members there who would be happy to help. If you don't own a telescope, come anyway, because there are lots of telescopes set up and everyone is invited to look through them. This is a great way to check out different telescope designs before you make that all-important decision to buy.

If you have friends or relatives who are curious about amateur astronomy, feel free to bring them along. The TIMPA site features a large parking area, and full restroom facilities. Be prepared for cool temperatures after sunset. It's also a good idea to bring insect repellent.

Due to safety issues, we will not open the Gila Monster Observatory. We plan to correct this issue as quickly as possible.

The various AFSIG Observing Clubs will be active. We will have the 5 new scopes donated to AFSIG by Wally Rogers available for your viewing pleasure. Come and join one of our activities, or observe on your own and enjoy the camaraderie. AFSIG will open the gate at 6:45 pm and directions to the TIMPA site are located on the last page of this newsletter

### **Las Cienegas (Empire Ranch)**

Note: The club is no longer scheduling monthly star parties at this site. Las Cienegas (formerly Empire Ranch) had been the club's dark-sky observing site for many years. The site may still be used by members, but it is recommended that members make their interest known via the [taaaforum](mailto:taaaforum) e-mail listserver to organize the activity. This will preclude someone going to Las Cienegas, only to find out that no one else went down. Please try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astro-images. There are restroom facilities at the site.

Las Cienegas is at 4000 feet in elevation so be prepared for cold temperatures. The directions to Las Cienegas are located on the last page of this newsletter.

### Member's Events (cont.)

#### ALCON 2011 – Bryce Canyon

By Robert Taylor

June 29 – July 2

As you may know ALCON 2011 will be happening this year from Wednesday June 29th through the Night of Saturday July 2nd 2011 at Bryce Canyon National Park. This year ALCON will be co-hosted by the Astronomical League, the Salt Lake Astronomical Society and Bryce Canyon National Park. We are very excited about this particular ALCON because of the location and focus on observing at one of the darkest skies in the lower 48. We have an outstanding line-up of speakers, events, sponsors and vendors including John Dobson, Carolyn Shoemaker and others, hands on demonstrations, a live feed remote telescope for imaging and southern hemisphere site viewing, a Star-B-Q dinner and much more. Please see the ALCON page for the latest line-up of speakers.

We also have a commitment from Orion Telescopes to bring one of their Monster Dobs for us to look through, we are all looking forward to getting a view through one of these monsters. So far we have two observing sites secured, one will be a traditional Public Star Party with the park public, often from all around the world, attending in conjunction with Bryce Canyon's Annual Astronomy Festival as well as a separate site dedicated to just observing for ALCON attendees only. Both sites are very dark, the public usually departs the public site by midnight leaving the field for us till sunrise. During the day we will have speakers, a swap meet, vendors and of course Bryce Canyon National Park, one of the most stunningly beautiful spots on Earth and one of the oldest National Parks in the National Parks system.

As you can imagine this is a great location for an ALCON. We hope to see you at this year's ALCON. If you have additional questions please don't hesitate to contact us. Please see the AL ALCON page (<http://alcon.astroleague.org/>) for additional information regarding the event as well as travel information about getting to Bryce.

#### Sharing the Sky Star Night

A big Thank You to everyone who participated in this year's Astronomy Day activities at the University of Arizona Mall! As usual, the sight of all the telescopes lining the Mall was extremely impressive. Every time we looked up, we could see a steady stream of people meandering through the telescopes and having a great time. We are grateful for the time and efforts of the operators who bring their equipment and share their information and enthusiasm with the public.

We are so fortunate to have the talent in TAAA to add the hands-on activities that Terri Lappin spearheads for us. Ellen Finney's talent made the renaming of the stars a lot more professional by doing the names in calligraphy on each certificate. This year we even had a 175-pound meteorite to whet the appetites of our attendees to learn more about astronomy. Finally, Flandrau Science Center's generous ticket price reduction to its planetarium shows helped out tremendously.

It was a wonderful night, and to top it off, we raised a total of just over \$1900 for the National Sharing the Sky Foundation.

David and I really appreciate the continuing efforts of TAAA to help make this event such a success each year. Your time, talent and abilities are priceless.

Thank you for a job well done.

Wendee & David Levy



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### Planetary Nebulae of the Month – by Christian Weis

Planetary nebulae (PN) are fascinating objects that come in numerous forms of appearances. Besides the well known grand four Messiers (M27, M57, M76 and M97), there are hundreds more to explore. This article suggests two PNs, a pretty bright and easy-to-observe one and a harder one for the more ambitious observer who is equipped with a bigger scope.

From 68 known PNs in Ophiuchus, NGC 6572 is by far the brightest one. It was discovered in 1825 by Friedrich Struve and is also referred to as the Blue Racquetball. Since it is very small, it will be hard to detect any structures. However, due to its brightness, this PN appears distinctively green. That is what makes this object so fascinating. I observed NGC 6572 on March 12<sup>th</sup>, 2011 from Innerlaterns in Austria, having a dark sky but poor seeing. My notes read: Very bright, green, central star can be blinked, diffuse, not exactly round but somehow rectangular; 452x, fst 6m7 (UMa)

PK 303+40.1 (Abell 35) is a faint PN in Hydra, not far away from the border triangle of Virgo, Hydra and Corvus. It was published by George Abell in 1966. Interestingly, the central star is bright enough to be seen with a 2" telescope. The nebula itself, though, is very faint. The integrated brightness is 12m7, which does not sound too bad. But considering its huge size (almost half as big as the moon), the surface brightness is 26m2. You will definitely need a dark sky to observe this toughie. On April 3<sup>rd</sup>, 2011, I was able to see it with my 18" Dob. My notes: Very faint, only visible with 57x / 94x and OIII filter; can be kept with direct vision, roundish shape, no structures or differences in brightness, pretty big, hard object, no chance without filter; fst 7m0 (UMa)

#### NGC 6572

RA: 18h 12.1 min

Dec: 6° 51'

Constellation:

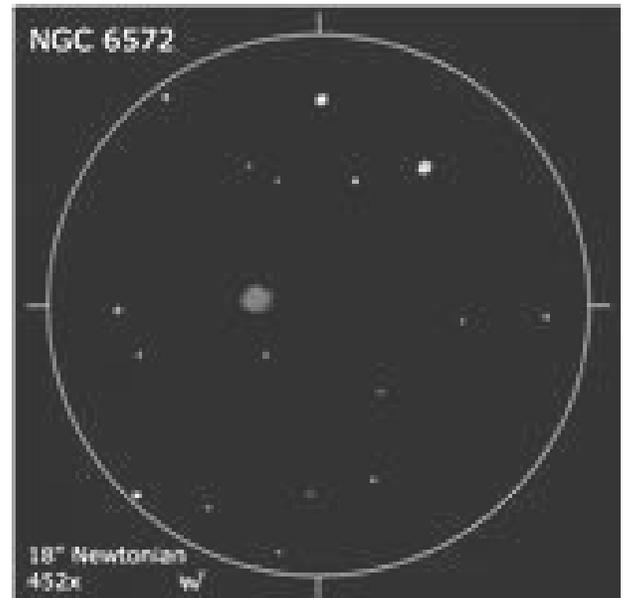
Ophiuchus

Brightness: 8m0

Central star: 13m6

Size: 16x13 arcsec

Distance: 2000ly



#### PK 303+40.1 (Abell 35)

RA: 12 h 53,7 min

Dec: 22° 52'

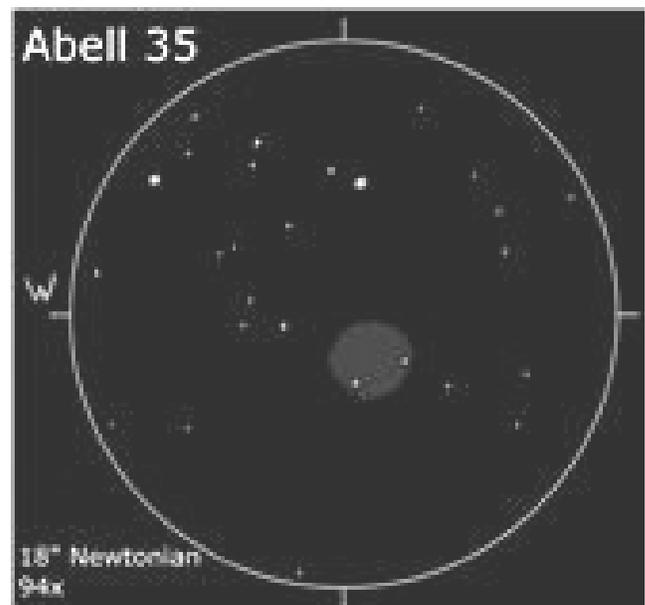
Constellation: Hydra

Brightness: 13m3

Central star: 9m6

Size: 15' x 10'

Distance: 650 ly



## CONSTELLATION REPORT BY CHRIS LANCASTER

### Serpens Caput/Serpens Cauda Head/Tail of the Snake

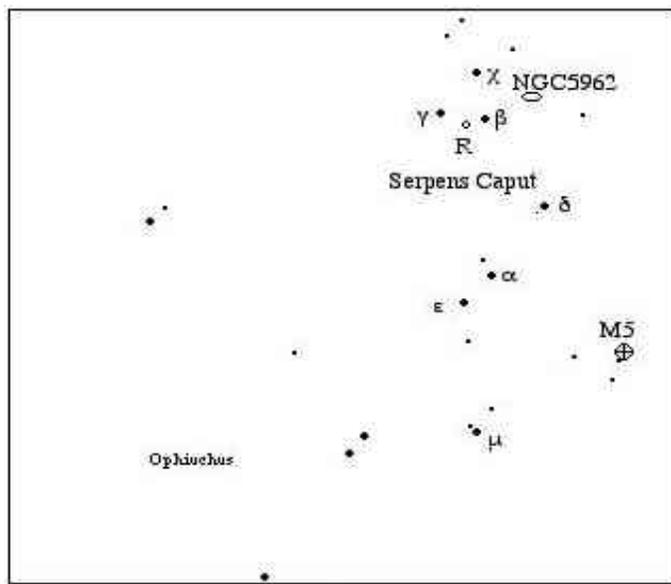
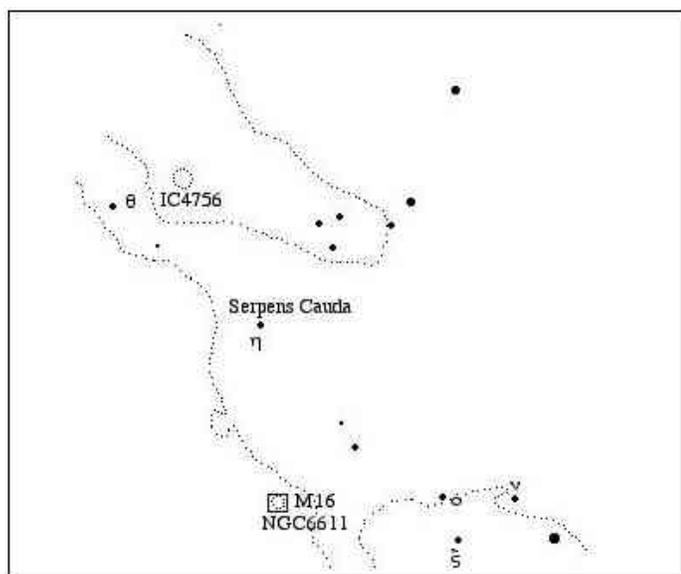
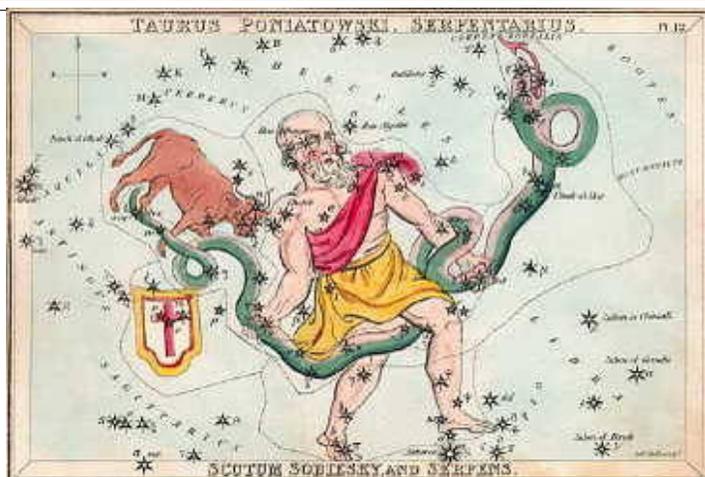
This constellation is uniquely broken into two parts with Ophiuchus, the legendary physician Asclepius who learned how to bring the dead back to life from a snake which was able to revive another snake that he had recently killed, intervening between. To the west we see Serpens Caput, the head of the snake, and, on the east side of Ophiuchus, Serpens Cauda, the tail of the snake. This complex pair of constellations lies just above the ecliptic from the summer Milky Way to a distance west covering about 4 hours of RA. On July 15th, Serpens Caput begins to cross the meridian at about 8:30pm, and Serpens Cauda does the same at about 11:00pm.

Starting at the head of the snake we find M5, a spectacular globular cluster of magnitude 5.8 measuring 17.4' across. It is easy to find 22' NNW of the 5th magnitude star 5 Serpentis. (If you pause to notice 5 Serpentis, you'll see a double star of magnitudes 5 and 10 separated by 11".) M5 ranks among the best globulars in the sky, showing a bright glow in small scopes and a dazzling swarm of pinpoint stars in large instruments. It has a bright core that appears slightly oval in shape, and, along one edge, loops of stars that give the impression of flower petals.

Up near the snake's head is NGC5962, a dim 12.2 magnitude galaxy, but one of the brightest among the dozen or so galaxies in this half of Serpens. It can be found at RA 15h 36.5' Dec +16d 36.5', or not quite 4 degrees practically due north of 3.8 magnitude Delta Serpentis. You should see a distinct nucleus surrounded by a gradually dimming fat oval shape completing the structure of the galaxy about 3' across.

Moving over to Serpens Cauda we see more galactic deep sky objects owing to the fact that here we are looking toward the Milky Way's spiral arms. M16 (RA 18h 18.8' Dec -13d 47.0') is very familiar to everyone who has looked through an astronomy textbook. It's the photogenic Eagle Nebula, cataloged by Charles Messier because of the star cluster, but also designated NGC6611 from the nebulosity in which the stars are embedded. Any telescope will see the cluster, but those in the 10-inch range should easily bring out the nebulosity. Farther up, 4.5 degrees ENE of Theta Serpentis, is the open cluster IC4756. This is a large, loose cluster, magnitude 5 and 52' in size. An interesting feature of this cluster is the letters "mc" (or "wc" depending on your viewpoint) outlined in a few of the stars in the center of the cluster.

Now, move back to Theta, named Alya, which marks the end of the snake's tail. This is a pleasant double star shining with a combined magnitude of 4.05. The two components share a common brightness and spectral type of A5 with an easy separation of 22".





## Tucson Amateur Astronomy Association

### TAAA BOARD OF DIRECTORS MEETING — June 8, 2011

**Attending:** Board members present (6): Bill Lofquist, Teresa Bippert-Plymate, John Croft, Michael Turner, John Kalas, Claude Plymate. Members present (6): Bob Gilroy, Luke Scott, Terri Lappin, Al Anzaldua, Paul Anderson, Gary Rosenbaum

**Call to Order:** The Vice President called the meeting to order at 6:32 pm.

**Minutes:** Minutes from the May 2011 Board meeting were approved unanimously.

#### Member Feedback

- The June meeting received positive comments.
- The CAC Star Party observing report on the Forum had several positive member comments on the site and its development.

#### Announcements for Record

- John Kalas reported that Marriott asked to be added to our insurance. They are one of our main customers for paid star parties.
- John Kalas has asked our insurer to work up a quote to cover the new assets at CAC. He will also ask them about covering our equipment at TIMPA, and if we would see a savings by consolidating our liability and property insurances under one agency.
- The Board has been alerted to a possible 16" RC donation to the club. If this is offered, we will need to send a committee to assess condition, and examine the logistics and cost of moving it.
- A committee of Paul Anderson, Luke Scott, and Claude Plymate will meet to evaluate the club's restored C-14 telescope. No formal decision has been made on the telescope yet, but informal discussion indicates it may be sold as a fundraiser.

#### Upcoming Meetings

- A July Astronomy essentials speaker is needed. Several options were discussed and a fallback option has been put into place.
- The August, September, and December main lectures are open.

#### Treasurer's Report

- The club has \$25069.99 in checking. It was noted that there will be a few cost overruns on the CAC Phase 2 project; however, it is nearing completion.

#### Special Interest Group Status Reports

- Astronomy Fundamentals (Bob Gilroy): Electrical service and concrete work at the TIMPA pads are completed. It was noted at the last meeting that the step up to the Gila Monster Observatory pad presents a trip hazard; a solution will be submitted to the BOD by the AFSIG. Bob Gilroy attended the TIMPA Annual meeting. TIMPA will erect rebar and lights at the Shootout in Oct to protect our pads from RVs.
- Astronomical League (Paul Anderson):

Christian Weis' award for completing the Messier Award was published in the latest Reflector.

- Space Exploration (Al Anzaldua): Al filled in for the speaker at the last meeting, as the speaker was in an accident. There will be no SE SIG meetings in July and August. Al attended the Space Fest and reported that it was excellent. He suggested that TAAA participate next year. The Space Fest will be held in Tucson from now on.

#### Website Update

- Terri Lappin reported that the website is up-to-date.
- The spam from LinkedIn is NOT from any TAAA site, it is from LinkedIn. Unfortunately, these sorts of things may occasionally occur. The best defense is a good spam filter and your delete key!

#### Chiricahua Astronomy Complex

- John Kalas reported that Phase 2 construction is proceeding well. The roof for the roll off roof observatory is being prepped for final roofing. Two more guide wheels were needed; they were purchased and are in. The pier is in, and the plate for the AP mount is being modified this week. Also, hold down latches and plates were purchased for the observatory this week.
- The electrification of the 10 observing pads will be completed this week.
- The Phase 2 construction will probably be completed by the end of June. We do not know how long it will take to get the county signoff on the improvements.

#### Web Site Working Group

- Bill Lofquist reported that the website contract with Lew Lepley has been signed and given to the Treasurer.

#### Other

- Discussion was tabled on a proposal to begin charging for the nametags. We have been getting too many people who order nametags and then never pick them up. This is not only wasteful but expensive.
- Teresa Bippert-Plymate gave a requested report on the expenses incurred for the Festival of Books event.

Meeting adjourned at 8:27 pm.  
Respectfully submitted,

Teresa Bippert-Plymate  
Secretary

## Remembering Lou Faix 1933–2011 by Rik Hill

Lou got his Bachelors Degree in Mechanical Engineering in 1956 from General Motors Institute of Technology (GM), later known as Kettering University. By 1963 he was a Senior Design and Development Engineer for General Motors. He worked his way up through the ranks of engineers writing a number of papers and obtaining patents for new automobile improvements. He served as a crew chief and for a racing team during this period as well. He was an active member of the Society of Automotive Engineers (SAE), and was an active member of the Experimental Aircraft Association (EAA) and in 1981 built his own airplane.

These experiences in engineering served him well when it came to amateur astronomy as he became well-known for his engineering prowess and originality when it came to dealing with equipment problems. In the early 1970s, Lou decided to build his own telescope, starting first with a 6 inch and then a 10 inch Newtonian reflector, hand grinding the optics and building the mounting from scratch. Later he built his own observatory next to his home on Robin Hill Road and designed it after one the observatories at Lowell Observatory on Mars Hill in Flagstaff Arizona.

He was one of the first amateur astronomers, certainly in Michigan, to build and use a thermo-electric cold camera. He liked to tell how, due to heat transfer, an observer could heat coffee on one end of that camera and cool film on the other!

His engineering inventiveness also manifested itself in solving the problem of periodic error in his telescope drive, and was such a unique solution to the problem that Sky and Telescope magazine did an article on this invention in their May 1978 issue on page 439. This resulted in some excellent astrophotography for which he became well known.

Lou was also well known for his talks at various meetings of the Astronomical League, Great Lakes Astronomical Symposium, Apollo Rendezvous and other meetings throughout the Midwest. His speaking style was quite refreshing and unique. After many speakers would read their dry presentations directly from a piece of paper standing bolt upright behind a podium (I among them), Lou would stroll up (in a sporty leisure suit in the 1970s), ignore the podium altogether and half sit on a table, the back of a chair or on a stage, put on his large smile and talk to you as if you were just having a cup of coffee over the kitchen table. His talks could be on engineering problems with astronomical equipment, vagaries of astrophotography, or sometimes his own personal theories on astronomical topics which were not only unique and entertaining but often humorous as well.

Lou made friends with just about everybody he met in astronomy. This plus the recognition of his competence in so many astronomical subjects led to him serving as an officer in the Warren Astronomical Society: Vice-President (1975–76) and President (1977–78).

After retiring to Saddle Brooke, Arizona in the late 1990s, just outside Tucson, Arizona, Lou founded the Saddle Brooke Skygeezers, a rather large astronomy club of mostly retirees. Both Dolores and I had the privilege of speaking to this club and were very impressed with both the size and the knowledge of the members undoubtedly schooled by Lou.

Most of all, those who knew him will miss his enthusiasm, his warm affable smile and his readiness to engage in delightful conversation on any astronomical subject with anyone. Amateur astronomy is poorer for the loss of him and he will be greatly missed.

## CHIRICAHUA ASTRONOMY COMPLEX

### Construction Update

John Kalas - Construction Coordinator/  
CAC Site Director

Phase 2 construction of the "public area" is coming down the home stretch. The roll-off roof observatory is nearly completed with the roof and the steel door installed and the structure painted. We have started loading telescope equipment into both storage containers. The 18" Obsession Dobsonian telescope is now stored in the Amphitheater storage container.

The electrical contractor has wired the ten telescope pads, installed an electrical box next to the Amphitheater storage container, installed the master electrical panel on the north exterior wall of the observatory and wired the interior of the observatory. The roofer is working on the observatory roof covering. The painter needs to paint the observatory

door and the steel support structure for the roll-off roof.

I have designed a hold-down system for the roll-off roof consisting of industrial toggle latches with steel mounting plates. I also had a steel transition plate fabricated for the concrete pier in the observatory and I had the mounting plate purchased with the Astro-Physics 1200GTO mount modified to allow attachment to the transition plate. The electrical work should be completed by the time you read this article. I will be purchasing interior/exterior lighting fixtures for the observatory. We are hoping that the "public area" of the Phase 2 construction project will be completed by the end of June.

The July CAC Star Party is scheduled for 7/2. It appears that the monsoon season may be running a little late, so we may get lucky.



Roll-off Roof Observatory



Concrete Pier  
with Anchor Bolt Template

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### Directions to TIMPA and Las Cinemas

#### Directions to TIMPA Site

GPS coordinates: 32 deg 15.868' N, 111 deg 16.390' W

##### **From the North:**

1. Take Ina Rd. west about three miles past I-10.
2. Turn left (south) on Wade Rd.. Wade Rd. becomes Picture Rocks Rd. when the Rd. bends to the right (west).
3. Take Picture Rocks Rd. west to Sandarac Rd..
4. Turn left (south) on Sandarac Rd. to Manville Rd..
5. Turn right (west) on Manville Rd. to Reservation Rd..
6. Turn left (south) on Reservation Rd. (dirt Rd.) and go about two miles. The TIMPA entrance is on the left.

##### **From the East:**

1. Take Speedway Blvd. west and it turns into Gates Pass Rd..
2. Go over Gates Pass and continue west to Kinney Rd..
3. Turn right (north) on Kinney Rd. and continue past the Desert Museum.
4. Kinney Rd. bends left at the entrance to Saguaro National Park West and becomes Mile Wide Rd..
5. Take Mile Wide Rd. west about five miles to Reservation Rd.. Mile Wide Rd. ends at Reservation Rd. and you must turn right (north) onto Reservation Rd..
6. Take Reservation Rd. north about one mile. The entrance to TIMPA will be on the right.

#### **NOTE**

A gate card is required for TIMPA access. Please **DO NOT** ask the caretakers for entry to the TIMPA SITE. A list of TIMPA key keepers is available on the TAAA website, or by contacting a board member. For scheduled TIMPA star parties, a designated TAAA representative will provide access to the site.

#### Directions to Las Cienegas (Empire Ranch)

GPS coordinates: 31 deg 47.356' N, 110 deg 37.913' W  
Take I-10 East from Tucson. Take Exit 281 (Route 83 Sonoita-Patagonia Highway South). Travel south on Route 83 for about 19 miles, watch for green and white milepost 40 sign on the right side of the road. Approximately ¼ mile past milepost 40, turn left into Las Cienegas. The road is dirt and is "wash-boarded" so go carefully. At about 2.9 miles, there is a fork in the road. Stay to the right. When the road ends in a "T", take a left. Cross over a concrete section of the road down in a wash. Just up the hill from the wash (about .2 mile), turn left. 0.1 mile ahead will be the end of an abandoned airstrip with a covered Ramada. The club members have been setting up several tenths of a mile down the runway. If you arrive after dark, as a courtesy to other members, use only your parking lights to approach the set-up location.