Terrific Potluck Is Now History

I hope you were able to attend the potluck in December. We had tons of great food and the best company possible. It was a bit of a three ring circus with about 100 people there—all the more fun.

Carl Frisch brought his newly built 10" scope and his really new 16" truss-tube scope fresh from his workbench. Ruth Pendley nearly got frostbite giving her hand-ground, hand-built, 1/10 wave “Twilight Navigator” its first light, and Robbin Pimbley brought his famous bowling ball scope for extra measure. President Mike set up two mirror quality tests—the Knife-edge test and the Ronchi test in an adjoining room, and a large number of people participated in the Children’s and Adult versions of the “Trivial Quiz”. Kevin McKeown came out on top (again!) with 20 out of 24 questions correctly answered in the adult version and was honored with first pick of our “antique” (heh-heh) give-away books.

Linda Hixon received an award for completing the Messier Observing List, and Mike and Debbie Pendley were presented with a gift certificate to a restaurant of their choice for their excellent service to TAAS this year. Hopefully there will be no discussion of astronomy that evening, even if the meal is heavenly!

Many thanks to those generous people who helped set up or clean up.

By the way, let me quote from Discover Magazine 2/94 p.18 which I used as a source for question #3 on the Trivial Quiz: “For decades they (astronomers) have been puzzled by the corona’s searing 3.5 million degree temperature, which is several hundred times hotter than the solar surface.” Please send your complaints to the dodos at Discover Magazine. Ellie Gates and Kevin point out that the real answer is several thousand times hotter. Sorry about that.

- Lisa Wood

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January Meeting to Elect ‘97 Officers and Discuss Edge on Galaxies

The first meeting of 1997 will be Saturday, January 18th, at 7 pm, in Regener Hall. This one you will not want to miss!

Dr. Richard Rand of the University of New Mexico will speak to the club. Dr. Rand is the newest addition to the Physics and Astronomy department’s expert staff of researchers, and came to UNM from the University of Maryland. He received his Bachelor’s degree from UC Berkeley, and then obtained his Ph.D. from Cal. Tech. Dr. Rand is an expert on spiral galaxies, and his research focuses on spectroscopic studies of gas associated with spirals, specifically edge-wise spirals. His talk will start out with an overview of galaxies and will include the different varieties and their makeup (stars, gas and dust). He will then focus on spiral galaxies, and his specific interests, namely, gas and dust (density and composition) in spirals, motions of gas and dust clouds, and associated stellar evolution. Dr. Rand will answer the question “why study gas

Continued on Page 9
PRESIDENT’S UPDATE

Looking to the Past and Future

In late 1995 the nominating committee asked me if I would be interested in being the 1996 TAAS president. I was flattered but also concerned because I had never been the president of anything before. You don’t know how closely I watched George Pellegrino the few next months. The transition went well due largely to the infrastructure established by George and the 1995 administration.

I went back and reviewed what happened in ‘96 and I thought I would help you recall what some of the more important events were. **February:** started advertising our World Wide Web page, the POTTY committee began work on replacing our stolen GNTO outhouse, and we lost Leo Broline when he passed away suddenly on February 1. **March:** GNTO was back on line after reconditioning the Isengard mirror and repairing the damage caused by the 1995 break-in and we held a very successful Messier Marathon. **April** was busy. We had a McDonald Observatory campout/visit, a very successful Astronomy Day and Steve Williams retired as *Sidereal Times* editor after publishing 81 issues. Wade Douglas stepped in, give the *Times* a general face lift and increased it’s size to 10 pages. **May:** we went to Chaco (and got rained on), introduced the now famous TAAS coffee mug, introduced the Kids Corner, and started the spring telescope making class. **June:** we went to the VLA, camped out on top of Mt. Withington, and tried something new at our general meeting - a hardware show and tell by TAAS members. **July:** we introduce the TAAS hotline for event info and ate dirt at the Annual Picnic. **August:** we held our largest star party of the year - Jumpin Jupiter (3500 people), had to deal with yet another GNTO break-in, and reported Bill Galther resigned from the board (he moved) and was replaced by Brock Parker. **September** saw the Triple Trip, more rain at Chaco, and the introduction of an ATM column in the *Times* (there will be more, I promise). We experimented in **October** by holding our general meeting at the SFCC Planetarium, went on a Starfire tour, and started the Fall telescope making class. **November:** Wade Douglas regretfully had to resign as newsletter editor and the board began work began transitioning to 1997. **December** saw a great Winter Potluck.

Through out the year, many TAAS members helped staff the UNM observatory on Friday nights and helped out at our many elementary school star parties. These efforts brought astronomy to literally thousands. Our efforts at reaching the public paid off of the society as well. Membership one year ago was 220. The membership report for January 1997 had membership at 291 - an increase of over 30%.

At the end of the December board meeting I asked board members to discuss how they thought the year went - what worked, what could have worked better, what needs to be changed. The general consensus was that we had a good year, we had fun, but we are pretty thin when it comes to maintaining the infrastructure. This is a situa-

Continued on Page 5

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November Recap

The well attended TAAS Regular meeting of November 23rd was our Thanksgiving special. Mike Pendley called the meeting to order, and we immediately got underway with our guest lecturer, Dr. Dave Crawford of Sandia National Laboratory. Dave is an expert on impact phenomena, and works with Dr. Mark Boslough. Tonight, Dave spoke to us on magnetism associated with impact events and his talk was titled “Mysterious Magnetism of the Moon”. He first presented some concepts. The earth has a fairly strong magnetic field, generated from a “dipole”, or simple bar magnet, located within the earth’s core. On the contrary, the moon doesn’t have a global dipole magnetic field. However, the Apollo missions showed lunar magnetism does exist, but in the form of discontinuous, randomly oriented dipole “patches”, none of which exceed our earth’s field strength. Hot objects, like Venus’ surface rocks, can’t support a magnetic field.

Dave then addressed the question “do impacts produce magnetic fields”. In short, yes! Craters known from earth all have magnetic fields or anomalies. For instance, small craters such as Meteor Crater in Arizona show a magnetic “hole” (negative anomaly) in the rocks that were disturbed on impact. Large, energetic, ancient Canadian impact sites have strong central positive anomalies,
I know you’ve all heard of ski bums, but how about “sky bums”? After completing 3 years on the TAAS Board of Directors, two as vice-president, I have decided to answer a higher calling, the call of the wild, and become a sky bum. We have several in our society, and I’ve been watching them, and think I might have what it takes now, to become one, at least junior grade. Consequently, the upcoming year will hopefully be filled with the following activities:

1. Filling my closet with astronomical fashions such as T-shirts that say, “Seen any good 5th magnitude stars lately? True sky bums have many such shirts. The only exception to this rule was Percival Lowell, who always wore a 3 piece suit while observing, but he was from back East and looking for life on Mars, which might explain this eccentricity.

2. Making sure I have an adequate supply of Pepsi and Cheez-Doodles on hand for observing purposes. Only professional astronomers consume Brie and Champaign while observing; clearly a diet not suited for the rigors of dusk til dawn observing.

3. Practicing the reply, “The Moon,” for when people ask me what’s up. This is required.

4. Convincing my husband that bumper stickers that say “I brake for asteroids” applied to our truck are not a whim, but a necessary safety measure.

5. Learning to defog an eyepiece by warming it up in my mouth, all while observing with another. This comes before the Cheez-Doodles, not after, and I’m not sure about this one.

6. Observing to my heart’s content whenever possible, and not even keeping notes in my Really Cool Observing Log if I don’t feel like it.

7. Going to a planetarium show on cloudy nights to listen for errors in the script. For real fun I’ll bring my own laser pointer to confuse the lecturer.

And so I wish you all as fun a year in 1997 as I anticipate having. It has been a pleasure and honor serving with Mike Pendley and the rest of the Directors this year. I remain, as always, your humble librarian.

- Lisa Wood

Lisa - The order of (5) is unimportant to a true Sky Bum. Seriously, the pleasure has been ours

- The Board.
### February’97

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#### November Recap

*Continued from page 3*

Indeed, magnetic fields on the moon can be generated by impact. This can explain the lunar highland magnetic fields, and the small Apollo 17 crater. But what about Reiner Gamma, and similar farside features, where no large craters can be implicated? Lonnie Hood of the University of Arizona believes features like Reiner Gamma lie at the antipodes (opposite points on the lunar globe) of large basin forming impacts, where the solar wind- and its magnetic field- was actually turned back around on itself. This magnetic wind converges onto a point on the moon’s surface opposite the impact, and imparts a local anomaly (see “Astronomy”, October 1994). Dave doesn’t agree—Reiner Gamma has no associated antipodal impact basin. In fact, Reiner Gamma is associated with several very small, curious, fresh craters. Furthermore, a farside feature similar to Reiner Gamma appears to be associated with the crater “Goddard A”. Dave believes Reiner Gamma and Goddard A might represent comet impacts! The magnetic coma of the comet might be responsible for the fields and the curious light soils. Dave concluded by saying that lunar magnetism is still poorly understood.

Many thanks to Dr. Crawford for the great talk.

We next had announcements, and reviewed the remarkable November 17 Leonid display. A social hour well endowed with pies, cake, cookies, and coffee followed.

- Kevin McKeown
March 97

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Pres Update

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...tion that invites burn out so a high priority item for ‘97 needs to be finding a way to increase active participation by members, especially in the areas of GNTO management and support and volunteer docents. We also need to find a way to make GNTO usage more attractive to the general membership.

Allen Green’s comment was especially insightful. He pointed out that much of our success was based on the fact that we stood on the shoulders of giants.

—Mike Pendley

NOTES:

TAAS = The Albuquerque Astronomical Society
GNTO = General Nathan Twining Observatory. Call Bill Tondreau @263-5949 to confirm.
SFCC = Santa Fe Community College. Call Brock Parker @298-2792 to confirm.
UNM = UNM Observatory observing nights. Call Brad Hamlin @ 343-8943 to confirm.
ATM = Amateur Telescope Making. Call Michael Pendley for information @ 296-0549.
Board Meeting

The December 12, 1996 TAAS Board Meeting was called to order by Mike Pendley at 7:00. Board members present were Lisa, Gordon, Carl, Elinor, Allen, Jay, Bruce, Kevin, Brock, George, and Ruth.

Minutes: Written copies of the November minutes were passed out to board members. They were read and approved without changes.

Treasurer’s Report: Gordon Pegue reported total funds on deposit stand at $9149.45 - a net increase of $335.39.

Observatory Committee: Gordon contacted Jim Cox and has developed a plan to repair the door at GNTO. As soon as the weather improves a bit, Gordon will organize a work party to remove the door, attach a continuous top to bottom hinge and reattach the door. This is likely to take all day so an over-nighter will be required.

Membership Committee: No formal report. 150 new TAAS quad-fold brochures / membership application were given to Ellie.

Nominating Committee: The Nominating Committee provided a list of the recommended 1997 TAAS officers: Pres - Mike Pendley, VP - Kevin McKeown, Tres. - Elinor Gates, Sec. - Steve Snider.

Awards Committee: Progress is being made. One award set, still need to discuss the other.

Calendar: UNM Observing on the 13th is canceled. Carl will print a proposed 1997 calendar of events for the next board meeting. Onate elementary school was added to the calendar May 2, Pendley is contact.

Event Reports: Tome Elementary School star party (Dec. 3) had a poor turnout - prob. due to the very very cold weather. The portable palnetarium was set up and was a hit with the 40-50 people that braved the cold. April 18 was proposed as the Velincia star party date. Finalizing this date was defered to the next board meeting.

Planetarium Committee: TAAS has received the first half (terms and conditions) of the paperwork from APS. The second half (exceptions) will be coming soon.

New Business: A motion was passed to hold Astronomy Day at Coronado Mall in 1997. A suggestion was made to hold talks through out the day on various topics. Brock Parker, AD coordinator, was granted $200 to order long lead time items needed for the event.

New Business: There was a descision on modifying checking account procedures used by the treasure. No decisions were made and discussion tabled to the next meeting.

Everything in Outer Space, a new publication that will list nationwide astronomy related activities and organizations contacted Ellie by e-mail to submit info on TAAS. Ellie, Mike and Kevin will put something together.

- Mike Pendley

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November Recap

Continued from page 3

represents the remnants of an old, extinct, lunar core dipole modified by small to large cratering events, or it was derived from large, basin (Mare) producing impacts which imparted magnetism to the lunar crust and mantle. This question is unresolved to this day. Dave next talked about the strange feature called Reiner Gamma, located in southern Oceanus Procellarum. This is a curious Greek gamma shaped feature of high reflectance, and with no apparent relief. Associated with it is the strongest magnetic field known on the moon—nearly one fiftieth earth’s. But what made it? Also, the lunar highlands, with their extensive cratering, have strong, patchy fields. And Apollo 17 explored a small impact crater with glassy deposits in the center. This crater was found to have a very strong, very local magnetic field!

Dave then reviewed the specific conclusions of his PHD model where impacts can generate magnetic fields. When his experimental impacts were scaled up, Dave showed that,
Late Jan-Feb Musings: Springtime arguably presents the best stargazing of the year, and to me, it really begins in mid January to early February when the sun has moved east enough to allow Omega Centauri to be seen well during the early am hours. I’ll never forget the night of February 22-23, 1977, from Truth or Consequences, when I had my first good view of Omega Centauri. The night was T-shirt warm, inky black, and dead still. I had just purchased new 10X50mm binoculars, and wanted to try them out. At about 3 am, I headed down along the Rio Grande (don’t do this now-a-days), and quickly found Omega as an easy naked eye object. It was huge and bright in the binoculars, but what really shocked me was that I could start to resolve Omega! NGC-5128, the big peculiar galaxy, was also easily seen. That night was magic.

By mid February, the sun has “cleared” northern Crux, alpha, and beta Centauri. From Big Bend NP, or better, southernmost Texas, this is a good time to try for these objects- if you can’t go to Australia. Speaking of alpha Centauri, our sun’s nearest neighbor, this 0 magnitude star also has a very high proper motion. It is actually drifting to the west, and will pass very close to and across beta Centauri (see Tirion) on a bee line towards Crux itself. By the year AD 17,198, alpha Centauri will actually lie close to the deformed stars of Crux (see the Sid Times, December 1996, Observer’s Page)! What didn’t occur to me at first was the real implication of the proper motions of bright stars and the disruption of some of our favorite star patterns. That is, how lucky we are to be able to yet observe essentially the same night sky the Babylonians, Celts, Greeks, Romans, etc. saw!

The Leonids On the morning of November 17th, 1996, the Leonids raged back with new activity. Observing from Oak Flat picnic grounds, Gordon Pegue, Brad Hamlin, and myself witnessed a remarkable shower of Leonid fireballs! From 1:19 am MST to 2:23 am MST, with the radiant still low, I logged 24 Leonids, and 5 sporadics. Most of these Leonids were of first magnitude or brighter! The highlight of the display was a minus (-) 13 magnitude Leonid bolide (at 2:22:30 am MST) that left an exquisite train of 32 minutes duration! After about 3 am, MST, the fireballs had diminished, but Leonid rates were still better than rates seen in the 1980’s. Thus, the first of the new Leonid activity, which will hopefully build to a Leonid storm, has begun!

NGC-2467 Observed! A late addition to the just completed TAAS 200 list of deep sky objects was an emission nebula I had never observed- NGC-2467 in Puppis. Even though the literature highly touts this object as being large and bright, apparently it is little known. And none of the TAAS hard core DSO’s had ever observed it! Thus, on January 9th, I ventured out into the cold, clean black skies west of Los Lunas to observe this object. Lying just northeast of eta Canis Majoris, it was immediately recognizable in my 12X50mm finder as a small, bright, round glow! The 10 inch presented a large, very bright, round, somewhat bubble like nebula chock full of faint stars. Overall, it resembles a planetary nebula. Try an O III filter on this object. By the way, the TAAS 200 list will be ready for the January 18th Regular meeting!

Priest Canyon Starparty: Jeff Bender, Gordon Pegue, Bill Tondreau, and Mark Nagrodsky were hardy enough to venture out to the Priest Canyon locale last December for some black sky observing. Jeff Bender tells me that the turn off road to this site lies about one mile before the Abo ruins exit. However, he said the terrane there is so rocky, it needed to be raked smooth before Dobs could be set up! Tripods only, perhaps?

The only other parties any of you participated in, that I know of, that had anything what-so-ever to do with the stars, was the Pizza affair at Dione’s, held for the TAAS UNM docents, and of course, the Potluck. Such is winter.

Winter Globulars? Winter time presents few globular clusters for the stargazer. These clusters orbit our galaxy’s hub like moths circling an outdoor summer lamp. As we gaze towards the direction of the galactic center from our remote outer location in the galactic disc, they appear most frequently in that direction. Because the Milky Way’s center lies almost at the point where the summer constellations Sagittarius, Ophiuchus, and Scorpius meet, these constellations harbor about two thirds of the visible globs. Since the Milky Way’s anti center presents itself in Taurus, globs are rare in winter skies. And those few seem out of place amongst the galaxies, open clusters, and cool blue stars of winter.

The winter globs include: NGC’s 288, 1261, 1851, 1904 (M-79), 2298, and 3201. NGC-288 in Sculptor is a bright, large cluster with a unique off center appearance. It shows good resolution in an 8 inch. Catch it low in the southwest in
Thank you, Dr. Sagan.

December 20. 1996

Carl Sagan passed away from pneumonia in Seattle today. He was 62. I first became acquainted with Dr. Sagan in 1980 when his series “Cosmos” first aired on PBS. There was a huge rush on the book that Christmas, I recall. The series was reprised in 1982. I bought my first VCR expressly for the purpose of taping this series, which I did.

Not scientifically inclined, I was tremendously excited by Sagan’s ability to clearly and simply communicate basic scientific principles that had previously eluded me. He finally opened a door for me that no other teacher of science had ever found the key to. I was inspired and elated.

Those tapes have long since grown thin from being watched countless times, and as I watch them over a decade later I shake my head and marvel at how basic and simplistic they now seem.

I often meet interesting people when I work at the planetarium on Friday nights; intelligent, curious, and more than a little confused about the fundamentals of astronomy. They sense that this information is important, perhaps even life-changing. One woman, on her way out of the planetarium gave me my life’s most treasured compliment. She said, with gratitude, “I understood every word you said.” I knew just how she felt. I mourn the passing of an astronomer who introduced richness, insight and wonder into my life. I understood every word he said.

Thank you, Dr. Sagan.

- Lisa Wood
mid February. NGC-1261 hovers just above the due southern horizon of southernmost New Mexico in early February, and is ordinarily not visible from our latitude. It is a gem, however! NGC-1851 lies low down in Columba, the Dove, seen due south of Rigel. It is the best of the bunch, in my opinion: a smallish, bright cluster that is very rich and concentrated. A 10 inch reflector will show lots of resolution. The most familiar winter glob, NGC-1904, or M-79 in Lepus, just below Orion, is about one magnitude fainter than NGC-1851, and less rich and less packed. It’s OK. NGC-2298 in the Puppis Milky Way is yet another magnitude fainter than M-79, and is small, faint, and unresolved in a 10 inch. NGC-2419 up in Lynx is an intrinsically (“truly”) large, rich globular, but it lies an enormous distance from the sun. It thus appears only as a smallish, tenth magnitude object. I couldn’t even see any hint of resolution from 2419 in Bill Tondreau’s 30 inch, it is so distant! NGC-3201 sits low in our southern sky of late winter, just above the Vela Milky Way. This forgotten globular is a BIG, binocular bright object that is not too rich or condensed, and fairly easily resolved in a 10 inch. Do hunt it down!

Anyway, except for NGC-2419, all of the “winter” globulars I described above lie well south of the celestial equator. Low latitudes hamper our views of NGC-1261, 1851, and 3201. But in fact, folks in the southern hemisphere are presently enjoying these “winter” globulars high up after sunset, under warm hazy skies of summer! Thus, NGC-2419 is the only true winter globular!

- Kevin McKeown

Observers

Continued from page 7

February Meeting to be The Sale of the Century!

The first ever- that I know of- TAAS Auction will be the subject of the Feb. Regular meeting. The auction has several goals. First, the auction will hopefully get many of you to open up your astro junk boxes, so that these unused items can be put to use and appreciated by others. Second, it will bring in some income for the club. Third, auctions are a whole lot of fun! ANYTHING is fair game to be auctioned off. Old lenses, small to large telescopes, eyepieces, mirror making materials, tubes, bearings, books, atlases, are on equal turf with pies, cookies, electronics stuff, computer stuff- whatever.

We will work out the details at the next board meeting and publish more information in next month’s Sidereal Times.

Please contact Kevin or Mike (see p.10) if you have any questions or if you have any big ticket items you would like to have advertised in the next newsletter.

- Kevin McKeown

The Kids’ Corner

by Lindsay Wood

March’s dumb astronomy riddle:

Q: What is the center of gravity?  A: The letter V.

Astronomy Quiz

(TRUE OR FALSE)

1. For centuries people believed Venus was inhabited.
2. No one knows precisely when the first living things appeared on Earth, but fossil record show that one-celled plants and animals were here 99 billion years ago.
3. The density of Mercury is about the same as Earth’s.
4. With a telescope or binoculars you can see Venus change in shape and brightness.
5. Pluto was discovered in 1960.
6. Mercury is the hottest planet since it is closest to the Sun.
7. Titan, one of Saturn’s moons is the smallest in the solar system.
8. Ganymede is the largest known moon in the solar system.
9. A person who weigh 100 pounds on earth would weigh 38 pounds on Mars.
10. It takes Neptune 164 Earth years to go around the sun.

Answers: T-1, F-8, T-6, F-7, F-10, F-9

Today is the second largest - 6 F Venus is the hottest; 7 F Pluto is the second largest; 7 F (1904) C T-1, T-7, F-3 billion years ago; 3 F (1904) C 1, F-3 billion years ago.
**DUES:** Please note the expiration date on your mailing label. If you are due for membership renewal, you may send your dues by mail to our newsletter return address with your check written out to The Albuquerque Astronomical Society or give your check to the Treasurer (Gordon Pegue) at the next meeting. Please include the membership application that is sent with your newsletter when it is time to renew. **NOTE:** Discount magazine subscriptions to *Sky and Telescope* ($27/12 issues), *Astronomy* ($20/12 issues) and *CCD Astronomy* ($20/4 issues) as well as discounts on books from Sky Publishing Corporation are available when purchased by TAAS members through our society. Include any of the above magazine renewal mailers and subscription payments as part of your renewal check (we recommend that you renew 1-2 months early to ensure uninterrupted magazine subscriptions). Membership dues are $20.00 per year plus $3.00 per year for each additional family member. Also available for qualified applicants is an Educator Membership—contact a Board Member for details. Membership Packets cost $3.50 each for new members or renewing members without a packet (free copies on the Web and BBS). Contact the Database Manager for more information.

**NEWSLETTER ARTICLES/ADVERTISEMENTS:** Articles, personal astronomical classified advertisements and business card size advertisements for businesses related to astronomy can be submitted within 3 days after the latest Society general meeting for publication in the following *Sidereal Times*. Rates for business card size ads are $10/ad/issue or $7/ad/issue for 6 consecutive issues or $5/ad/issue for 12 consecutive issues. The newsletter editor reserves the right to include and/or edit any article or advertisement. **NOTE:** ASCII files uploaded to the TAAS BBS newsletter file section are preferred. Contact the Newsletter Editor (Mike Pendley) for more information.

**CHANGE OF ADDRESS:** Note that the *Sidereal Times* is mailed at a non-profit organization bulk mail rate. As a result, the newsletter will NOT be forwarded to your new address should you move!! Please provide the Database Manager with your new mailing address to ensure that you receive your newsletter.

**TAAS LIBRARY:** Please contact the Librarian (Lisa Wood) to check out a book or make a contribution.

**TAAS HOT LINE PHONE NUMBER:** 296-0549

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**Board Members**

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V. President/Librarian:
Secretary/Society BBS Sysop:
Treasurer/Observatory Director:
Event Coordinator:
Database Manager and Web Master:
Board Member:
Board Member:
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Board Member:
Program Coordinator:
Board Member:
Education Coordinator:

**Non-Board Members**

Campus Observatory Coordinator:
Archivist:
Telescope Curator:
Newsletter Editor:

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**TAAS BBS:** Set your computer’s modem to 8N1 and call 867-4295 any time of day or night.

**TAAS on the World Wide Web:**
http://www.phys.unm.edu/~egates/TAAS/taas.html

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**TAAS Map to Regener Hall**

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**The Albuquerque Astronomical Society**

P. O. Box 54072
Albuquerque, NM 87153-4072

Address Correction Requested