



# STAR FIELDS

Newsletter of the Amateur Telescope Makers of Boston  
Including the Bond Astronomical Club  
Established in 1934  
in the Interest of Telescope Making & Using

Vol. 11, No. 8      September 2000

articles you have, or at least the name of the article so that it can be referenced. In order not to detract from our guest speaker, we will conduct our show-and-tell at the end of regular business. Please contact me to schedule your talk. -Bob Collara-

## July's Minutes...

THE 728TH MEETING of the Amateur Telescope Makers of Boston, including the Bond Astronomical Club, was opened with a poetry reading by new President BOB COLLARA. The business meeting was held first. Club officers gave their reports. Four new members were welcomed. Clubhouse director PAUL CICCETTI is doing some research to try to solve our "mosquito woes". A suggestion was made that taking vitamin B6 tablets several hours before observing, and sweating it out in your skin will keep them away. Using a large fan or wearing a bug suit were other suggestions. Six members have completed Project Astro training held at the Museum of Science. MARIO MOTTA announced the upcoming AAVSO meeting, held this year in Massachusetts. (See article in this issue of *Star Fields*.) Membership secretary JOHN SMALL announced that 100 members are getting *Star Fields* by email. The Acton Discovery Museum is interested in bringing groups of kids to the clubhouse. They will be told that Thursday night is not a good night for their activity. Bob brought up some items in the news, including the July 11th *Boston Globe* article on the giant laser being used in experiments at the U. Of Rochester, NY to zap objects the size of a grain of sand or less with 75 teraWatts of power, equal to nearly 100 times the total US electric power consumption at a given moment. The blast lasts for a billionth of a second, and will be used to recreate the conditions of radiative blast waves in space, including the Big Bang.

Bob told us that the office opposite the kitchen at the Cfa will no longer be available for storage of the club's paper goods and refreshment supplies which are used at meetings. If anyone else has space at the Cfa which could be used, please let Bob Collara know. BERNIE VOLZ gave an update on the solar eclipse trip. He is now looking into going to Zambia, at a cost of around \$4500. Anyone who is seriously interested in going should get in touch with him. Approval has been received to make the new roll-off roof observatory larger to accommodate two telescopes. Contact MARIO MOTTA to help out.

The rest of the meeting was a Show-and-Tell. GARY JACOBSON brought the binoculars he made using two 4-1/2" reflectors mounted on a Dobsonian base. GARY WALKER gave tips on how to build an observatory, based on his experiences building one in New Hampshire. We were also treated to some of his photography. LEW GRAMER spoke about telescopic observations of meteors. He suggested looking at one area of sky for 30 minutes. Through a telescope the swirls and patterns in a meteor train can be seen. Lew also explained how to plot shooting stars through a wide-angle richest field telescope or binoculars. The American Meteor Society formed in 1911, and meteors have always been the domain of amateurs. He mentioned the charts available from the International Meteor Association and how to trace radiants. The last presenter was MARIO MOTTA, who showed more samples of his wonderful astrophotography.

## This Month's Meeting...

Thursday, September 14th, 2000, at 8:00 PM  
Phillips Auditorium, Harvard-Smithsonian  
Center for Astrophysics

## This Month's Meeting...

THIS MONTH'S speaker is Bob Donahue from the Harvard-Smithsonian Center for Astrophysics. His talk is entitled, "Is the Sun Weird?", a comparison of our Sun with other stars.

Join us and our most excellent speaker for dinner at 5:45 PM at the Changsho Restaurant located at 1712 Mass Ave. in our fair city, Cambridge.

## President's Message...

THE CONSTRUCTION of our clubhouse roll-off roof observatory is progressing nicely. As President, and on behalf of our club members, I would like to thank MARIO MOTTA, PETER BRUCKNER, JOHN SMALL, PAUL CICCETTI and JOHN REED for persisting in the management of this very impressive project. Permits have been approved, holes for footings have been dug, concrete will soon be poured. Later in the Fall, Mario will coordinate framing the building. Help is always needed for these work parties, so please sign up and help out.

We are almost at solar peak. Since our guest speaker will be talking about the Sun, I thought it would be an interesting aside to the main meeting if anyone who has constructed an aurora detecting device bring it to the meeting and share his/her thoughts about it with the rest of us. A few aurora detector "how to" articles have been described in *Sky and Telescope* magazine, AAVSO literature, "The Electronic Experimenter Handbook", etc. I would like to compile an anthology of all available aurora detector articles, bind them together and keep them at our clubhouse so that members will have a source book to draw upon. I would like to ask you to please bring me a photocopy of any

A flea market with all kinds of astronomical items was held after the meeting. Several members walked away very, very happy!  
-Eileen Myers-

subscriptions you are renewing. My mailing address is 9 Bear Hill Terrace, Westford, MA 01886-4225  
-John Small-

## Treasurer's Report...

IN THE July issue of *Star Fields* I incorrectly indicated revenue, expenses, and income for June when it really should have been May. For the month of June, we had \$925.73 in revenue and \$278.16 in expenses, for a net gain of \$647.57 for that month.

For the month of July, we had \$2,605.47 in revenue and \$221.41 in expenses, for a net income of \$2,384.06 for that month. As of July 31st, 2000 our assets were:

Checking Account - Regular	\$16,841.42
Investments	\$18,553.21
Total Current Assets	\$35,394.63

Of the total, \$1,901.81 is in the Land Fund and \$160.00 is for clubhouse key deposits.

We will once again be offering the Calmat Publishing Astronomy 2001 Calendar at a discount. This calendar normally lists of \$12.95. We will be making it available to members at \$10.00. 25 copies have been ordered. They will be sold first-come first-served (with full payment only, either cash or check to ATMob) either at the September or October meeting (depending on when they arrive).

On another note, Maureen and I got married on August 22nd. We did this while on a cruise down the Inside Passage in Alaska. It was a great cruise (and wedding). We got married in Tracy Arm, in front of a glacier. The backdrop in the photos really looks hard to believe it was real.  
-Bernie Volz-

## Membership Report...

I WOULD like to warmly welcome into our club the following new members: DICK SMART, Walpole, MA, LEE SILER, Belmont, MA, GREG QUINZI, Brookline, MA, JOHN WEBB, Cambridge, MA, DONALD HASTINGS, Holliston, MA, DUKE BRISCOE, Arlington, MA, JOHN SIMPSON, Concord, MA, SHAWN FITZMAURICE, Quincy, MA, ISHRAT NADEEM ZAHID, Nashua, NH, MARTIN FISHKIN Brookline, MA, and BEN COSTANZA, Brookline, MA.

We also send our hearty congratulations to Maureen Criasia and BERNIE VOLZ. We can't wait to hear the stories and see the photos of this wedding!  
-John Small-

## Dues...

AS OF September 1st, our membership stands at 342. 200 of our members have paid their dues for the current year, and the donations have been very generous. You can mail me your dues now, or give me your dues at the September meeting. I will then need to mail reminders shortly thereafter to those who still haven't paid.

For those of you who have not yet renewed: if all of your information on the club mailing label is accurate I do not need anything other than a check. If there are any changes, I'll need the check and the changes. You are welcome to use any electronic banking services. Just make sure the memo contains the

## Clubhouse Report...

### SATURDAY OPEN CLUBHOUSE SCHEDULE

Sept 2	Richard Burrier	John Reed
Sept 9	Steve Clougherty	Phil Rounseville
Sept 16	OPEN	WORK PARTY
Sept 16	John Small	Jim Suslowicz
Sept 17	CLUBHOUSE	PICNIC
Sept 23	Jack Drobot	Steve Hertzberg
Sept 30	Lew Gramer	Steve Mock
Oct 7	Jack Drobot	John Reed
Oct 14	CLOSED	ASTRO ASSEMBLY
Oct 21	Lew Gramer	Steve Mock
Oct 28	Eric Johansson	Al Mazurka
Nov 4	Trip to NYC	Rose Center
Nov 4	Lew Gramer	Gary Walker

(Clubhouse Committee members should note the changes to October 7th and 14th.)

IN SPITE OF summer vacation schedules, a small corps of members managed to accomplish a great deal. We now have repaired and shingled over three-quarters of the west side of the barn, dug and installed forms for a walkway to the back door of the barn, cleaned out and prepared forms for the new barn floor, repaired the furnace, and continued organization of the office. The barn roof was stripped of old shingles, planks replaced, and plywood added for further roof stability. Drip edge, weather seal, and new shingles were added. Concrete for the walk and floor will be poured the same day the footings and pier for new observatory are poured (September 16th workparty). Starting September 11th, watch for Dave Prowten's email alerts concerning the schedule for construction of the observatory. Thanks go to: DAVE PROWTEN, BRUCE GERHARD, JOHN REED, MIKE HILL, STEVE CLOUGHERTY, DAN FELDKHUN, PETER PSYHOS, JOHN PANASWICH, ED KNIGHT, BILL MACHELL, and ANNA HILLIER.

Please make every effort to be at the September 16th work party, 10am start time. We will need four teams to supervise and finish the four concrete pours. Please bring wheelbarrows, hoes, heavy rakes, and concrete finishing tools. Come join the fun (and add your initials??\*#??!\*!) John Reed will be coordinating the day's activities in my absence.

The club picnic will be held on September 17th so mark you calendars for both of these events.

The club would also like to thank TOM PRENTICE who donated a box of fifty floor joist hangers and a 5 lb. box of floor joist nails for our new roll-off roof observatory. -Paul Cicchetti-

## Annual ATMob Picnic...

THE ATMob picnic will be on Sunday, September 17th, 3PM until Midnight, for all club members, their families, and friends. The picnic will be held at our clubhouse in Westford, with observing for all. Please bring a salad, main dish, or a dessert to share with others (bring a serving spoon too); bring a soda or juice to share too. Bring folding chairs or a blanket to sit on.

We will have the hamburgers, hot dogs, potato chips, ketchup, mustard, coffee, paper goods, and plastic cutlery. RSVP to club secretary Eileen Myers at [starleen@ma.ultranet.com](mailto:starleen@ma.ultranet.com) or 978-456-3937. Last minute picnickers are welcome too. Directions to the clubhouse can be found on the last page of *Star Fields*.

-John Reed-

## Upcoming Star Party...

THERE IS a star party scheduled at the Clark School in Swapscoot, MA for Thursday, October 5th. The event would run from 6:30-8:30. The rain date is the following evening. NOREEN GRICE from the Hayden Planetarium of the Boston Museum of Science has asked if any of us would be able to help out. Please contact either Noreen (617) 589-0273 or me for more info or to volunteer. Thanks in advance!

-Rich Nugent-

## Viewing the Shuttle Atlantis...

THE SPACE Shuttle Atlantis is scheduled to be in orbit during mid-September during a mission to dock with the International Space Station. Supplies will be transferred from Atlantis and a Soviet cargo vessel to the Station, spacewalks will be conducted to connect electrical cables between modules, and the Station will be readied for the first crew due to arrive later this year.

The good news is that the Atlantis/ISS complex will make (early morning) visible passes over New England during this mission. The best way to know when they will pass on a given date is to check out the web site: <http://www.heavens-above.com>.

For info on the overall mission check out: <http://www.shuttle.nasa.gov/>

-Rich Nugent-

## Streetlights and Star Lights...

THERE ARE young astronomers and old astronomers, thin astronomers and round ones, too. Professionals ones and amateur ones. Girl astronomers and boy astronomers. Some astronomers look through telescopes with mirrors and some use telescopes with lenses...all sorts of people love astronomy! But you know what all astronomers hate....streetlights! And you know why, too! It's because they are so bright that they wash out our precious night sky. Of course that's why people join the International Dark Sky Association and why we travel away from the bright city lights to observe. The farther away from the lights you get, the fainter they become.

Stars are a lot like streetlights. The farther away you get the fainter they look. The Sun is often described as an average star, and as we can see, shines brilliantly in our skies. But the Sun is only 93 million miles away! The other stars we see in the night sky are comparatively fainter because they are so far away. Most of the naked eye stars are tens to hundreds of light years away, and remember, a light year is just about 6 million million miles! If we could move the Sun just 72 light years away from us it would shine at a barely visible +6.5 magnitude! The brightness of a star falls off with the square of its distance. Double a star's distance and it will appear four times fainter.

I was just outside admiring the stars. Vega, Deneb, Altair, and Arcturus are some of the bright stars visible at this time of year. There are also many fainter stars visible. Hmmm....let's see, we just decided that faint equals far so, does that mean the bright

stars are close and the faint stars are far? That would certainly make things easy but, alas, the answer is "not always"! To complicate matters, stars come in a variety of brightnesses.

Compare Vega and Deneb. They mark two corners of the Summer Triangle visible high overhead just after dusk during September. Vega appears to be three times brighter, but in reality Deneb is over 900 times brighter! So why doesn't Deneb look 900 times brighter than Vega? It's because it lies some 1400 light years away from us, while Vega's distance is a mere 26 light years. We are a long way from the streetlight called Deneb! To help to unravel the situation astronomers use two magnitude systems.

A star's "apparent" magnitude refers to how bright it appears to us in the sky. Its "absolute" magnitude is a measure of a star's true brightness. By convention, each star's absolute magnitude is equal to the value of that star's apparent magnitude if the star were to be located 10 parsecs (32.6 light years) from the Earth. In essence, we line all of the stars up at a distance of 32.6 light years and compare their relative brightnesses. Absolute magnitudes can be determined by direct measurement of the nearby stars or by careful analysis of spectroscopic data on more distant objects.

So, what good is all of this? Astronomers can use the apparent and absolute magnitudes to calculate fairly accurate distances to the stars. The next time you're out dodging streetlights, take a moment to ponder the complex, three-dimensional structure of the starry sky above.

-Rich Nugent-

## World Renowned Astrophotographer David Malin is October's Speaker...



October's Speaker - David Malin

TO HELP you plan ahead, our speaker for the October 12th meeting will be David Malin, Photographic Scientist-Astronomer for the Anglo-Australian Observatory. Mr. Malin has been at the forefront of astrophotography for 25 years. He was a major force in the development of techniques for tricolor astrophotography, including film hypersensitization and CCD imaging. These techniques have led to important astronomical discoveries and analyses. His papers, articles and images have been widely published in scientific and popular journals, and he has won many prestigious awards. Mr. Malin has authored seven books,

including "The Invisible Universe" and "A View of the Universe". Mr. Malin lectures around the world. His works can be seen in traveling photographic exhibitions and in permanent displays at major museums and galleries.

The Anglo-Australian Observatory in Australia provides world-class astronomical research facilities. The Observatory operates two optical telescopes at Siding Spring Observatory, the 3.9-meter Anglo-Australian Telescope, and the 1.2-meter UK Schmidt.

Mr. Malin's visit to ATMoB is sponsored by The Wright Center for Science Education at Tufts University. The Wright Center is dedicated to the creation and sharing of instructional techniques and interdisciplinary resources for pre-college teachers. Through its fellowships, workshops, seminars, and a variety of public-outreach activities, the Center provides leadership in the training and retraining of science teachers to use innovative methods to stimulate young minds.

More detailed information can be found at:  
<http://www.aao.gov.au/images.html/general/malin.html> and  
[http://www.tufts.edu/as/wright\\_center/index.html](http://www.tufts.edu/as/wright_center/index.html)

-Matt BenDaniel-

## Heavenly Images:

### An Intro to Astrophotography...

#### Massachusetts Audubon Society Seminar

Time: Wednesday, October 25, 7:30-9:30 p.m.

Location: Broadmoor Sanctuary, S. Natick, MA

Contact: Tim Cox, (508) 655-2296 / (781) 235-3929,  
[timcox@aol.com](mailto:timcox@aol.com)

URL: <http://www.massaudubon.org>

Fee: \$20 (non-Audubon members), \$17 (Audubon members)

Instructor: ATMoB member Matt BenDaniel

IN RESPONSE to their search for an instructor on atmob-discuss, I have agreed to teach an introductory course on astrophotography for the Massachusetts Audubon Society.

Course description: We have all seen beautiful images of objects in space taken by large expensive telescopes. You too can take dramatic images of constellations, the Milky Way, and many other phenomena, with fairly basic camera equipment. A single lens reflex (SLR) camera with time exposure capability, a steady tripod, a locking cable release, and film are all you need to get started.

I will start indoors with slides and a discussion of techniques, including how to get the most out of your astronomical pictures. Then, outdoors, we will take pictures of star trails. With a bit of practice, you will be able to take stunning color pictures suitable for framing. Bring your equipment and dress warmly.

I recommend bringing Kodak Elite Chrome 200 slide film. Any other fresh ISO 25 - 100 film should be OK. Film faster than ISO 200 is too fast for star trail photography in S. Natick.

To see examples of my astrophotography, visit:

<http://people.ne.mediaone.net/mbendaniel/gallery/astro/index.html>

My homepage is <http://people.ne.mediaone.net/mbendaniel>

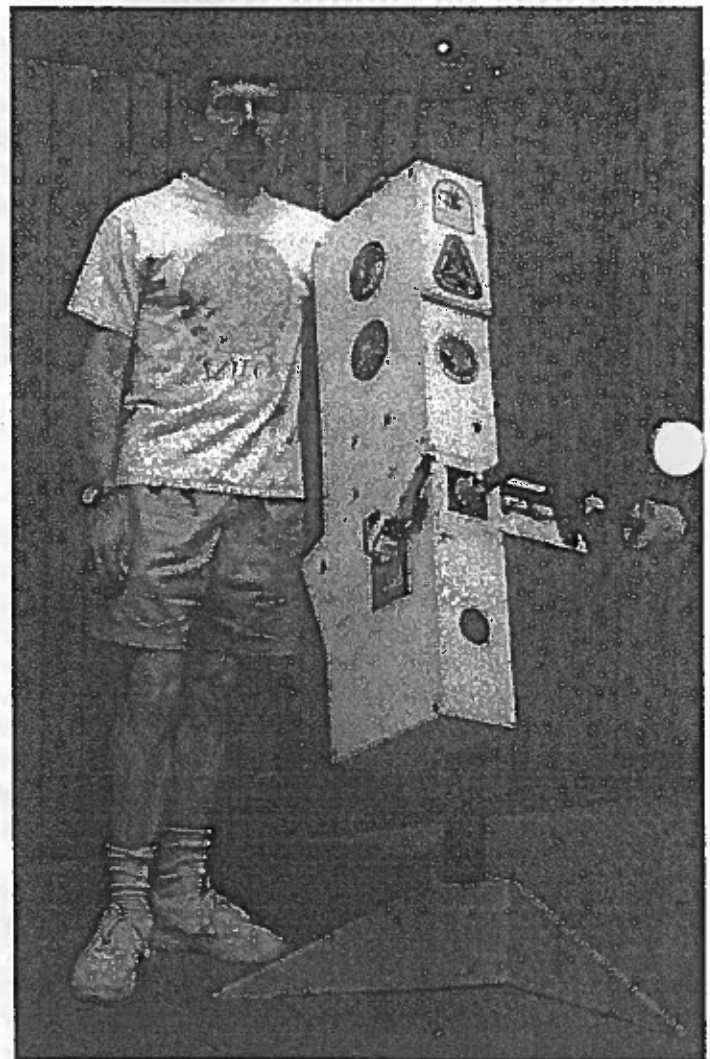
-Matt BenDaniel-

## Bus Trip to NYC...

THE BUS trip to the Rose Center for Earth and Space, including the new Hayden Planetarium will be Saturday, November 4th. However, there are only 27 people signed up and we need 50 in order to fill the bus. A final tally is needed by the museum by September 18th. If we do not get this number the trip will be postponed until the Spring. We are now inviting other astronomy clubs to join us. The cost will be \$17 for the museum and show, \$31 for the bus. Food can be purchased at the museum for lunch, or there are many, many nearby restaurants. We are planning to eat dinner at a Mexican restaurant called Gabriella's. It has real Mexican food - not just the tacos/burritos type. Call me NOW to make this trip happen.

978-663-0040 or [rmbc2114@email.msn.com](mailto:rmbc2114@email.msn.com) - Marsha Bowman-

## Mike Hill Wins at Stellafane...



Mike Hill and his Spectrohelioscope

THE INSTRUMENT pictured is my Award Winning Solar Spectrohelioscope. I capitalize that only because I am so glad to have finally won a coveted Stellafane award. I have entered six times - from my first when I was only 15, with an 8" f/8 Newtonian mounted on a Clock Driven Equatorial fork mount (figure) to this last entry which was entered four years ago without

success. Well they say that "If at first you don't succeed..." Well, I did keep trying and made the appropriate improvements on my spectrohelioscope - and it paid off. This instrument works as a very powerful spectroscope AND a very different type of spectrohelioscope. It shows a full disk image of the Sun that varies in wavelength as you scan across the disk. The H-alpha line is positioned over the edge of the Sun or over an active sunspot region, and due to the high dispersion of the instrument acts as a tiny window in H-alpha light. By looking into and through the aperture created by the H-Alpha line I am able to see prominences, filaments and best of all, active flares. It isn't a DayStar, but cost me lots less \$\$\$. A web page depicting my spectrohelioscope is [www.atmpage.com/solar.html](http://www.atmpage.com/solar.html) -Mike Hill-

## Wonderful Night in Westford...

MONDAY NIGHT, August 21st, was a quiet, still night. I could see that the sky was clear, and decided to go to the clubhouse to observe.

There were already eight others there when I arrived, more arriving as the hours went by. Someone even arrived past midnight. Everyone was working hard. Some were sharing telescopic views. Some were helping others locate objects. Someone was teaching how to polar align a German equatorial mount. Several members showed me how to star-hop with my new binoculars. By myself I can now find the heavenly Coathanger (also known as Brocchi's Cluster and Collinder 399) in Vulpecula, the Double Cluster in Persus, the Sunken Crouton (a large triangle of 6th-magnitude stars inside the Dipper's bowl, about 4° from end to end) and other asterisms in the Big Dipper, several open clusters and double stars in the Summer Triangle, and nebulae in the steam from the Sagittarius teapot. Several observers were doing astrophotography. The 17" was open and being used. There were reflectors on equatorial mounts, Dobsonians, refractors, a computerized Schmidt-Cassegrain, and one Dobsonian which had only just been finished three weeks before (mirror and mount made by the observer). Everyone had a great time observing. Even Carolyn Petersen, President of Sky Publishing, was there to observe. You can never tell what you will learn or who you will meet on an ordinary weekday night at the clubhouse.

Thursday nights at the clubhouse (non-meeting Thursdays) are not just grinding nights. On clear Thursdays there are always members setting up their telescopes out in the observing field, and, there are experienced members willing to check your mirror or mount, show you how to star-hop, how to collimate or polar align, align a finder scope, and give you advice and encouragement as you learn how to use your binoculars or telescope to enjoy the night sky.

The mosquitoes are just about gone now. Please don't hesitate to join us any time. Just look out for me. I'll be the one on the blanket star-hopping with binoculars. -Marsha Bowman-

## Stellafane 2000...

I STOPPED counting at 41 ATMoB members at the 65th annual Stellafane Convention, but there were certainly more. There were at least 1500 people in attendance. Friday night was fairly clear, and even an aurora was visible for a short time.

However, once again Saturday's daytime weather allowed mechanical competition, but as evening fell it rained - no optical competition again this year. That's two years in a row.

Several ATMoB members had items on exhibit. First of all, MIKE HILL, who won the First Place Special Award for his Solar Spectroscope, a combination spectroscope/spectrohelioscope. DAVID SIEGRIST, who made his mirror at the clubhouse, displayed his 6" f-8 Newtonian on a his homemade Dobsonian mount. MARIO MOTTA displayed his CCD camera and accessories made from swap table parts (remember his filter wheel from January's meeting). "Diesel" DAVE AUCCOIN displayed and his 13" f-5 Newtonian on a Dobsonian mount. And ROBERT COHEN displayed his 8" f-6 Newtonian on a Dobsonian mount, and the binocular mounts he made. Bobby also made his mirror at the clubhouse, and constructed all other parts of the mounts. I was told that several ATMoB members were judges or were prepared to judge mechanical design and optics.

The winner of Friday's Horseshoe Pitching Contest (children's competition) was Anna Bealo, daughter of PETER BEALO. Anna won a telescope! She spent most of Saturday with Stargazer Steve, assisted by Springfield Telescope Maker Junie Esslinger. For six hours they worked together assembling a telescope from parts donated or bought at the swap tables, including eyepieces. Steve instructed Anna and several other youngsters on how telescopes work. Anna also received a book written and autographed by David Levy, and a Stellafane tee shirt.

The talks were on protecting dark skies, graphite fiber composite lightweight mirrors for amateurs, observing systems for people in hospitals or handicapped, CCD astrophotography (including an astrophotography presentation made by MARIO MOTTA, as well as his slides from Hungary's solar eclipse trip), outdoor lighting (an "Outdoor Lighting Guidebook" prepared by Bob Gent was distributed), polishing with paper tape, thermodynamics and telescope design, flexing spherical mirrors into quality paraboloids, and Russell Porter and his designs for telescopes. -Eileen Myers-

## Experiences at Arunah Hill...

WELL -- I came, I saw, I learned, I got wet, I left.

After a scenic ride along Route 2's Mohawk Trail, I arrived at Trouble Road with my friend Daniel on Friday at about 6pm. We registered and drove uphill where we were greeted by EILEEN MYERS and DAVE SIEGRIST. We picked a level spot (that was a joke) without any rocks (another joke). As we finished setting up the tent the rain just started splashing against the still-dry yellow nylon. We finished unpacking and then sloshed over to the food tent, where we gobbled down a couple of juicy burgers courtesy of the local Boy Scout troop.

The Friday evening lecture by Richard Didick (<http://personal.tmlp.com/richard/me.htm>) was about Joel Metcalf, a Massachusetts minister who was quite an astronomer and comet hunter, and a war hero to boot. It was very interesting. When it was over, Eileen, a few others and I snuck out of the tent for about 5 minutes or so to see Lyra overhead before it disappeared into the clouds.

The organizers were well prepared for the weather. They had brought along some of Hollywood's stars in the form of a video tapes, a TV projector and a VCR. Instead of watching the

heavens, we laughed at "Bicentennial Man" with Robin Williams. It sure beat milling about in the rain and complaining. Much credit goes to these guys for adopting the motto of their Boy Scout hill mates by being prepared. They also brought along a couple of sci-fi classics like "Forbidden Planet", but Robin Williams won the popular vote for the Friday showing.

I chatted with some people until about 1am, then bedded down. Thank heaven for air mattresses! Mine made all the rocks disappear. I woke to the sound of rain and thunder around 6. The boy scouts cooked up some pretty good breakfast omelets, and the coffee was great. Daniel and I flipped a coin, and decided by its toss that we would heed the wet forecast for Saturday night, pack up and say goodbye before dark.

Before leaving, we learned a lot about the Gaertner telescope. The restoration job was magnificent! What I found most interesting is that this organization will give the keys to any qualified person to use at their leisure. The only requirement is that the person become an Arunah Hill member (\$20) and attend the annual StarWatch training held in October. During the 3 day training, amateurs are taught how to use the Gaertner, how to use the clubhouse, basic safety, first aid, how to deal with emergencies, as well as to run a star party, answer questions on meteorites, and more. You can then use the area and the telescope whenever you wish. All this training and it only costs \$25 for the course, including meals and the manual! Eileen and JOHN REED went through it last year, perhaps a few more of us ATM'ers should too. The skies should be much better than at the clubhouse or at Miles Standish, and though it's about a 2 hour drive from Westford, making it a 2 night trip would soften the travel overhead considerably.

While listening to Steve Pielock and others talk about the Gaertner, model rockets reached for the clouds from higher up on the hill. Led by 'Ranger Gary', a rocket left the pad every five minutes or so for almost an hour. Most demonstrated the laws of gravity quite well, but more than one rocket never came back, instead clinging to the upper branches of the trees that surround the landing area.

Next on the schedule was a planetarium show by Steve Pielock. Steve repairs, buys and sells planetarium projectors. He brought along a Apollo Viewlex Portable Planetarium and put on a great show under a 10' umbrella dome set up inside the Arunah Hill barn at the base. Visit Steve's web page at <http://www.stuffbynet.com/pielock/PPR-collector.html> for info on his interesting work. Narration was provided by John Davis, definitely a well-seasoned astro vet, whose knowledge of the night sky would be rivaled by only a few. I feel sorry only that Mr. Davis was prevented by clouds from providing us with a live narration under real stars (which I hear he did at Conjunction). After another meal of 'cheeseburgers with everything' under the Boy Scout cooking tent, Dan and I said goodbye to ATM'ers BOB COLLARA, BARBARA BOSWORTH, DAVE SIEGRIST and EILEEN MYERS, as well as a slew of new friends associated with Arunah Hill.

I sure hope the weather cleared up after we left on Saturday. And I hope that all those who didn't wimp out like me were treated to some dry, dark skies on Saturday or Sunday night. This is definitely an event I'll attend next year. (Editor's note: At the raffle Bob C. won a 40" Tele Vue eyepiece. Saturday's speaker

was Edwin Aguirre of S&T, who talked about how an issue of the magazine is put together. Good talk. Still cloudy night skies, so "Forbidden Planet" was started. Then it poured 2", with lightning putting on quite a show. Power was lost temporarily.)

Oh, and I didn't mention one thing. Except for the food and drink at about \$3.50 a meal, everything was FREE!

-Bruce Berger-

## Other News...

BE SURE to read PETER BEALO'S article "A Tale of Two Filters" in September's *Sky & Telescope*, pg.59-62. Peter describes his experiences using the H-alpha filters made by Coronado. David Lunt, the president and founder of Coronado Instruments Group, was our guest speaker in April 2000. Peter was president of ATMob from 1996 to 1998.

ASTRO ASSEMBLY 2000 (\$10 registration) will be held on October 13th-14th. It is sponsored by Skyscrapers, Inc, the Amateur Astronomical Society of Rhode Island. The event is held annually at Seagrave Memorial Observatory in North Scituate, Rhode Island. Seagrave is the home of several telescopes, including an 8-inch Alvan Clark refractor. Friday, October 13th - Informal talks and observing at 8 PM. Saturday, October 14th - Registration begins at 9 AM. Visit the Swap Table where you can buy, sell, or swap anything astronomical. Enter competitions for astrophotography, telescope making, the Astroquiz, and the Astro Bake-off (bake anything with an astronomical theme). There are door prizes and a raffle. There will be several speakers on Saturday afternoon. The evening dinner (\$15) is a choice of steamed lobster (requires advanced registration) or grilled steak. Advanced registration is required, especially for the lobster dinner. The guest speaker after dinner will be Dr. Eric Schlegel, High Energy Astrophysicist, Harvard Smithsonian Center for Astrophysics. He will speak about the recent data collected by the Chandra X-ray satellite. Observing will follow, weather permitting. Their web site is:

<http://chandra.cis.brown.edu/astro/skyscrapers/astro/index.html>.

Questions can be emailed to:

Steve Hubbard [cstars@worldnet.att.net](mailto:cstars@worldnet.att.net) or 45 Church Street, Auburn, MA 01501.

-Eileen Myers-

THE 6TH STAR WATCH program held at Arunah Hill will be run on the last weekend in October, Oct 27th - 29th. The unbelievable cost of \$25 includes camping, all meals and snacks, the excellent Star Watch Handbook, a special Star Watch patch (which you will wear with pride) and the keys to Arunah Hill's clubhouse and telescopes (you need to become a member of the science center for \$20 to get the keys). You can sit back and relax and learn about diverse topics important to involvement in astronomy. You will learn how to run a star party at Arunah Hill in particular, but the information and skills can be used at any star party. There will be leadership training, including such topics as how to teach, how to explain astronomy to non-astronomers, how to be a leader, how to work with groups, how to run an organization or program, how to work with the handicapped, what to do in case of an emergency, working with kids, and more. Astronomy topics in the past included the origins of the universe, meteorites, planetariums and other educational toys, CCD's for the

beginner, double stars, and more. You will also learn how to use the telescopes at Arunah Hill, safe and smart camping, and where the trails are. Different members of Arunah Hill give these talks in their areas of expertise. They are entertaining, stimulating, and full of information. There are lots of laughs. There is discussion and hands-on learning and problem solving. Don't procrastinate if you are interested in attending because the size of the program is limited. Send your name, address, phone number, and a check for \$25 (and an additional \$20 to become a member) to: Arunah Hill Natural Science Center, P. O. Box 16, Cummington, MA 01026. You can get more information by calling Joe Zuraw (413-665-8563) or Steve Pielock (413-772-6715). ATMoB club members EILEEN MYERS and JOHN REED have gone through the program and can answer questions as well. -Eileen Myers-

THE ARUNAH HILL NATURAL SCIENCE CENTER has acquired another 12-inch class refracting telescope joining the 1912 6 1/2" Gaertner Refractor (Brashier lenses) and 13" Fitz Refractor they already own. The new scope was made by Warner & Swasey Co. of Chicago and will now be on long term loan from the Dudley Observatory, Schenectady, NY. Arunah Hill members have worked to prepare a site for a large observatory building that will be big enough to house four operational 12-inch refractors, one 24-inch, and several smaller instruments. Fundraising is underway to obtain the funds for construction. If you haven't visited Arunah Hill in Cummington, MA, do so because it is a great dark sky observing site. You can also become a member by sending \$20 to Steve Pielock, 132 Sand Gully Rd., South Deerfield, MA 01373. -Ted J. Poulos-

THE 89TH ANNUAL MEETING of the AAVSO (the American Association of Variable Star Observers) will be held Wed-Sun October 25-28 in Waltham, Massachusetts. Registration is \$40 before October 6th, \$50 after. There are fees for the activities which involve food. Check the website listed below for the amounts. Members of the AAVSO keep tabs on variable stars, double stars, gamma-ray bursters, and solar activity. The AAVSO annual meeting gives both newcomers and longtime attendees the opportunity to share ideas, experiences, and tips on variable star observing. Attendees are also invited to visit the AAVSO Headquarters and to meet the AAVSO staff members. Attending the AAVSO annual meeting is an excellent way for the AAVSO members and observers to stay informed of the many activities and accomplishments of the Association. There are many interesting events planned for this meeting, including: participation in a special celebration honoring Cecilia Payne-Gaposchkin at the Harvard-Smithsonian Center for Astrophysics a Thursday night dinner and open house at AAVSO Headquarters, a public lecture given by long-time member Mario Motta followed by an AAVSO Show & Tell, an AAVSO Town Meeting, the AAVSO membership meeting, 2 scientific paper sessions, the annual banquet and awards presentation, and a special guest lecture titled "Searching for Planetary Transits," which will be presented by Dr. David Latham of the Harvard-Smithsonian Center for Astrophysics. Cecilia Payne-Gaposchkin had many astronomical specialties during her career. She was one of the leading variable star astronomers of her time. The speakers in this symposium will include some of Cecilia's former Ph.D. students,

friends, family members, and colleagues from Cecilia's various areas of expertise. Speakers in the preliminary program include: Paul Hodge, Catherine Pilachowski, Margaret Geller, Scott Kenyon, Wendy Freedman, Virginia Trimble, Dorrit Hoffleit, Janet Mattei, Katherine Haramundanis, Owen Gingerich, Chris Sneden, and Kenneth Janes.

The Massachusetts Medical Society (MMS) is hosting the regular meeting activities in their Headquarters building in Waltham, Massachusetts. The AAVSO website, which contains the registration form and fees, is [www.aavso.com](http://www.aavso.com) Contact Mario Motta with any questions. -Eileen Myers-

THE HAYDEN PLANETARIUM AND MUSEUM OF SCIENCE would appreciate the assistance of ATMoB members in conducting their Friday night public observing sessions (8:30 to 10:00 p.m. weather permitting). In addition to the telescopes in the Gilliland Observatory, a few other telescopes would be very helpful in giving visitors a better observing experience and the chance to talk to amateur astronomers. Robin Symons, Planetarium Director, is open to ATMoB members helping out on an occasional basis, or if some individuals want to do it on a more regular basis by becoming part of the museum's volunteer program. If you are interested, contact Robin at 617-589-0278 or [rsymons@mos.org](mailto:rsymons@mos.org). -Ted Poulos-

A CAMPING table called XIA TABLE, made by Maccabee Sports, appears to be great for holding large star charts as well as other observing equipment and materials. Made for "camping, park, patio, and tailgating", it consists of two parts: a base frame made of black powder coated steel, and a table top made of kiln-dried slatted wood. It can hold up to 85 lbs. and is 26" high. The table top is 30"x30". The table is stored in a dark green nylon pouch carrying bag (with a shoulder strap) which has two sections inside, one for each part. The table and base fold up very compactly, so the pouch is 23" around and 36" high. Best of all, the table can be set up or broken down in less than a minute, and weighs about 8 lbs. I purchased one at Bradlees for \$29.99, and I hear that Walmart sells it as well. There is also a matching chair.

-Eileen Myers-

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#### ATTENTION

October *Star Fields* deadline is SUNDAY, Oct. 1st  
email articles to ATMoB Secretary/*Star Fields* Editor  
Eileen Myers at [starleen@ma.ultranet.com](mailto:starleen@ma.ultranet.com)  
Articles from members are always welcome.

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**POSTMASTER NOTE: First Class Postage Mailed September 7, 2000**

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### How to Find Us...Web Page [www.atmob.org](http://www.atmob.org)

**MEETINGS:** Held the second Thursday of each month (September to July) at 8:00PM in Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics, 60 Garden St., Cambridge MA. For INCLEMENT WEATHER cancellation listen to: WBZ (1030 AM)

**CLUBHOUSE:** The Tom Britton Clubhouse is open every Saturday from mid-afternoon to late evening. It is the white farmhouse on the grounds of MIT's Haystack Observatory in Westford, MA. Take Rt. 3 North from Rt. 128 or Rt. 495 to exit 33 and proceed West on Rt. 40 for five miles. Turn right at the MIT Lincoln Lab, Haystack Observatory at the Groton town line. Proceed to the farm house on left side of the road. Clubhouse attendance varies with the weather. It is wise to call in advance. (978) 692-8708.

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### Heads Up for September...

**September 1 - 7** The rate of sporadic (random) meteors is nearing its annual maximum. Rural, dark-sky observers can expect to see 15 or more shooting stars per hour during the hours before dawn.

**Wed Sept 13 - Full "Harvest Moon".**

**Fri Sept 22 - Autumnal Equinox 1:27 PM EDT.** That instant marks the passage of the Sun overhead at the Earth's equator just off the coast of Ecuador.

**Tues Sept 26 - Zodiacal Light in E** before start of morning twilight for next two weeks.

**Wed Sept 27 - New Moon**

**Fri Sept 29 - Look for Venus this evening.** The young Moon is close by to point the way. Begin looking in the WSW 30 minutes after sunset (south of where the Sun sets). Use binoculars to aid in finding the thin crescent, then swing about a binocular field-of-view to the Moon's lower left. The only starlike object there is Venus. For a real challenge, try to bag fainter Mercury, 7 degrees below the Moon and 5 degrees to the lower left of Venus.

Jupiter rises about 4 hrs after sunset Sept 1, 3 hours after sunset by Sept. 30, brightening to mag -2.6; Saturn at mag 0 rises about one-half hour before Jupiter. Both planets are in Taurus and will remain in Taurus until they disappear into evening twilight in May 2001. Jupiter is at west quadrature on Sept 2nd, so look for a shadowed western edge of the planet and for eclipses of the Galilean satellites farther to the west of Jupiter.