



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

Vol. 14, No. 7 September 2003

This Month's Meeting...

Thursday, September 11, 2003 at 8:00 PM

Phillips Auditorium
Harvard-Smithsonian Center for Astrophysics

THIS MONTH'S SPEAKER will be Willie Soon, physicist at the Solar and Stellar Physics Division of the Harvard-Smithsonian Center for Astrophysics and an astronomer at the Mount Wilson Observatory. He is also Senior Scientist at the George C. Marshall Institute. His training is in atmospheric and space physics and his sustained research interests for the past 10 years include changes in the Sun and their possible impact on climate. Is it true that the Earth is experiencing global warming? Dr. Soons' talk will be "Climate History of the Last 1000 Years: What do we know and what we don't". For a detailed 67-page paper written by Dr. Soon on this topic see

<http://cfawww.harvard.edu/~wsoon/1000yrclimatehistory-d/Energy+EnvironmentSoonetal2003.pdf>

Please join our speaker for a pre-meeting dinner at 5:45 PM (seating is at 6PM) at the Changsho Restaurant located at 1712 Mass Ave. in our fair city, Cambridge. -
Eileen Myers, President-

President's Message...

WHAT A wonderful time to own a telescope! I have spoken to so many hundreds of people in the last four weeks about astronomy and seen the look of wonder as they looked at Mars, seeing the Southern Polar Ice Cap and making out surface features in my 4" Unitron refractor. Mars fever indeed! In the past I have asked observers at my scope to draw sunspots, and now I have asked them to draw Mars. Having a good map is very useful for identifying features, and my local library has a brand new book which I have found very helpful: "A Traveler's Guide To Mars" by William K. Hartmann, Workman Publishing, NY, 2003. There are maps and photographs, including a fascinating photo of dust devils on Mars. Those of you who attended Conjunction and heard Mike Mattei's excellent talk on Mars will certainly appreciate this book, as will anyone who wants to know more about the planet. A terrific online index to everything about Mars is at

<http://www.lpl.arizona.edu/~rhill/alpo/mars.html>

and the book The Planet Mars: A History of Observation and Discovery by William is online at

<http://www.uapress.arizona.edu/online.bks/mars/contents.htm>

For those of you who would like to share success stories of drawing and imaging Mars, bring your best work to the meeting for a short show and tell. Also any stories about observing from the NYC area during the Blackout. -*Eileen Myers, President-*

Club Picnic – Sept. 6th...

SUMMER IS just about over and Mars is looking great, so it's party time! Come and enjoy a day with delicious food, as well as solar, Mars and night sky observing. Meet other ATMob members and talk about astronomy all day. When? This Saturday, September 6th. Where? At the ATMob Clubhouse in Westford. What time? 3pm until midnight if the sky is clear. The picnic will be on, rain or shine. Club members, their families and friends are invited. Bring along your Mars images so we can oooh and aaaah and learn from each other. Bring your equipment if you like so we can see how you made them.

As far as food is concerned, please bring something tasty to share with others, such as a main dish, salad, or dessert. Bring a serving spoon too, and a soda or juice to share. Also bring a folding chair or a blanket to sit on. We will have the kielbasa, hamburgers, hot dogs, potato chips, ketchup, mustard, coffee, paper goods, and plastic cutlery. Bring your telescope too. Directions to the clubhouse can be found on the last page of *Starfields* or at the club website www.atmob.org Don't miss looking at Mars through the club's excellent Shupmann. Hosts for the picnic, as usual, will be Clubhouse Director and "Chef" John Reed and President and "Social Director" Eileen Myers.

July Meeting Minutes. . .

Eileen Myers opened the 761st meeting of the Amateur Telescope Makers of Boston with a picture of Harvard College Observatory as it was many years ago in the late 1800^s. She recounted the beginnings of the Bond Astronomy Club which was started in 1924 by William Cranch Bond who was the first director of HCO. Tonight's meeting was a show and tell meeting. The first speaker was JOSEPH ROTHCHILD who spoke about his experience at the Sky Watchers Inn in Benson, Arizona, which is about 40 miles SE of Tuscon. Joseph had a great time using their 20" Maksutov, and a number of smaller scopes under very dark albeit cold skies. It was March and he warned that multiple layers were a must. Everything from the Inn's Décor to the breakfast plates was astronomically oriented. Following this, Joseph presented a short demonstration of two Palm Pilot astronomy programs. One was called 2Sky and was a simple planetarium program. The other, JUP 0.5, was a nice program showing the moons of Jupiter and Saturn. MARIO MOTTA followed with a presentation of the plans for his new home now in the early stages of design. The home is situated in a very nice dark location on a bluff overlooking the ocean. A major part of the design includes an observatory complete with pier that rises through one end of the house. Mario has designed in cooling features for the dome based on lessons learned from a visit to the Kitt Peak observatory. It will be a 20' dome housing a new robotic 30" telescope. The optical design is a relay type design which will produce a fully corrected flat field. Mario then showed us some of his latest photos including a photograph that was one of three discovery images of a supernova in NGC 1097.

MIKE HILL followed with a short talk about his home observatory and solution to local light pollution problems. The observatory houses a 6" f/15 refractor that is mounted on a very sturdy bracket-like assembly built into the side of his house overhanging a second floor balcony. Light trespass from the North, South and West are completely eliminated with a simple set of canvas tarps hung from 3 metal posts. A few examples of the work done with the telescope were presented including a video clip of the moon taken with a brand new b/w astro video camera. GARY WALKER followed with a discussion of his experiences with the SBIG STV auto guider. He showed us some very nice pictures obtained of Mars and the Moon. CHARLIE MCDONALD presented a short summary of work he is pursuing with the Project Astro group involving Gamma Ray bursters. Lastly HUNG PHAM presented to us the latest version of Lunar Map Pro and showed us the new features that are now available. The business session followed the speakers with reports presented by the officers. Shilpa Lawande informed us of the new prices for Sky and Telescope and Astronomy but reiterated that we will get the subscription for the old price this year if we have already sent in our renewal forms. John Reed informed us that the new stairs up into the barn loft are now installed but that the steps into the upper loft need to be moved as well due to safety concerns and that people should use caution if they go up there and stay out if

possible. He also informed us that a 10" telescope tube assembly was donated to the ATM's by the last remaining engineer at the microwave assembly facility across the street as that project is now complete and they will not be there much longer. Eileen presented a summary of the last executive board meeting, Eileen also informed us that Ed Dougherty was very ill and that anyone wishing to visit with him should do so in the next week or so. Sadly Ed died only a few days later. -*Michael Hill*-

Treasurer's Report...

As of August 26, 2003:

Checking account balance: \$15069.79

Money Market account balance: \$30505.32

Included in this:

Clubhouse key deposits: \$ 155.00

Land fund: \$2969.36

For August:

Receipts: \$962.65

Expenses: 880.42

Net increase: 82.23

- *Gary Jacobson, Treasurer*-

Membership Report...

This month we would like to welcome 8 new members:

KATRINA DONOVAN (Brookline, MA),

KEVIN DUNN (Westford, MA),

GEORGE HAWKINS (Waltham, MA),

BRIAN LEACU (Newton, MA),

BERNADETTE McQUILKIN (Pepperell, MA),

G. PETUR NIELSEN (Belmont, MA),

HUNG PHAM (Methuen, MA)

MICHAEL ROSEN (Newtonville).

- *Shilpa Lawande, Membership Secretary* -

Clubhouse Report

To be presented at meeting

Clubhouse Saturday Schedule

September 6	Gary Jacobson	Bruce Gerhard
	Club Picnic – Starts at 3:00 PM	
September 13	Steve Herzberg	Paul Cicchetti
September 20	John Panaswich	Dave Prowten
September 27	Gary Jacobson	Art Swedlow
October 4	Ed Budreau	Henry Hopkinson

Stellafane - 2003

CONGRATULATIONS TO Paul Suntsov for winning Second Place Junior at Stellafane! Paul ground and polished his 8" f/8 mirror at the clubhouse and built his own German equatorial mount. The capability exists to download a Windows media player movie of Paul's telescope (2.6 Meg file) from the www.stellafane.com. The skies were not clear Friday night (what a rain) or Saturday so there was no optical judging – next year Paul!

Michael Cappotto entered his solidly built 6" f/10 Newtonian on a German equatorial mount into the competition. Michael Thompson-Renzi entered his handsome 12.5" truss tube Dob. Windows media player movies of Michael C.'s and of Michael R.'s telescopes are also available at Stellafane's website. Another member (lost your name – please remind us at the meeting) displayed his binocular mount.

Kudos to three members who gave ATM Short Talks: Mike Hill who spoke on "Newtonian Basics and the Parabola", Dave Siegrist who spoke on "Rough and Fine Grinding", and Mario Motta who spoke on "Polishing". The ground under the tent was wet mud, but that didn't stop everyone from having a great time. Thanks go to Bruce Berger and Mike Hill for once again setting up a dining fly for members to congregate under, and to Bruce for building a solid stand for the club banner.

On the way home some of us stopped off in Windsor, Vermont to visit the American Precision Museum. "The Museum has the most extensive collection of antique machine tools in the world dating back as far as 200 years. Included are single and multiple spindle lathes, shapers, planers, milling machines, single and multi spindle drills and grinding machines. It also has a unique collection of tools that were developed in this building to first mass produce guns with interchangeable parts. It also contains a great collection of measuring devices -- critical to measure parts that had to be interchangeable as compared to the 'file to fit' technology that was historically used for gun manufacture." Add the museum to your next trip to Stellafane. *-Eileen Myers-*



Paul Suntsov Looking Over his Work

Conjunction...

THREE CLUB MEMBERS gave talks at the 2003 Connecticut River Valley Astronomer's Conjunction in Northfield, MA. ATMoBers Rich Nugent spoke about the transits of Venus, Glen Chaple and Mike Mattei talked about Mars. At least eight other ATMoBers were in attendance. Both evening and daytime viewing were excellent. In particular, solar viewing through "Barlow Bob" Godfrey's TeleVue 102i, with a Bino View binocular viewer holding two eyepieces, 60 MM H-alpha filter Coronado filter inside the back of the scope and a 90 MM filter on the front were sharp and spectacular. Coronado has designed a new two-inch blocking filter, allowing two-inch eyepieces to focus in a star diagonal. The refractor has an 880mm FL. Using TeleVue 16mm Nagler type 5 eyepieces and a TeleVue equatorial mount, Barlow Bob told us that the only other scope like it is in Japan. Thank you Bob for sharing these incredible views of the Sun with us. We will never forget them.

Star Party Thank You . . .

WHEN THE summer began we knew that viewing Mars would be in the news, but who knew how the public would respond. The Harvard-Smithsonian Center for Astrophysics (CfA) in Cambridge organized two events at the Oak Ridge Observatory in Harvard, MA, a facility of the Smithsonian Astrophysical Observatory (SAO), which is part of the CfA. Saturday, August 23rd was for employees of the CfA, but on Sunday the 24th Oak Ridge was open to the public. There was an estimated crowd of over 800 but Mars unfortunately did not make an appearance. After a crystal clear day, clouds moved in around 7PM. Members of ATMoB talked to disappointed crowds who had not much else to do but listen, although one group did have a barbecue going! Art Swedlow gave outstanding impromptu lectures about astronomy and spectroscopy, Steven Feinstein spoke about light pollution, and Eileen Myers pointed the Clark Refractor at anything that appeared through the cloud cover. Shouts rang out whenever a star could be seen, as the crowd was eager to observe anything through the Clark, even clouds. Joe Caruso (April's meeting speaker on the Moon) who works at Oak Ridge, ran the 16" Schmidt Cassegrain. One lucky woman got to see Mars for 5 seconds through the 16", but that was it for observing. Some folks waiting in a long line never did get a chance to see the 61". At about 10:30PM forty names were picked by lottery. Those forty with their families returned on Wednesday, August 26th to finally get a look at Mars through the 61". We learned that a subscriber to atmob-discuss, Bill Peregoy, had his name picked. Thanks go to Mike Fitterman and his observing buddies Peter Chestna and Stephen Paul for helping Joe, running the 16" and talking to the crowds there, and to John Small, Dick Koolish, Art Swedlow and any other ATMoB members who patiently directed all of the heavy traffic on both nights. And thank you to the members who brought their scopes for public viewing.

ON WEDNESDAY, August 27th, "THE DAY" that Mars was only 34,646,418 miles away, over 5,000 people came to view it from the roof of the parking garage at the Boston Museum of Science. In addition to the Museum's Gilliland Observatory, ATMob members Tom Bergman, Jason Cerundolo, Scott Chizzo, Paul Ellingwood, Tony Flanders, Brian Leacu, Eileen Myers, Alan Parkes, Virginia Renehan, Scott Romanowski, Phil Rounseville, Peter Teague, Paul Valleli and Paul Wagoner bravely shared their telescopes with the public. Several museum employees brought their scopes as well. Clouds came and went for awhile, and shouts and applause from the thousands gathered greeted Mars every time it appeared through breaks in the clouds. Finally at about 10:30PM the seeing improved and most visitors could see the Southern Polar Ice Cap, and some struggled to see the Hellas Basin and Valles Marineris, even though for many it was the first time they ever looked through a telescope. Club president Eileen Myers with her 4" Unitron refractor, Phil Rounseville's classical Gregorian, lit skyscrapers in the background and eager visitors in the foreground appeared in a wonderful photo on page one of *The Boston Globe* (Boston edition). Noreen Grice of the MOS Charles Hayden Planetarium, who organized the event, sent this thank you to the club:

Please thank all the ATMob folks who came out to help. This may have been the most well attended event of any Museum event in history! We are not sure the exact count... we know that 2400 people came to planetarium shows but we think there were 5,000 or more people on the Garage Roof! It was more successful than we ever could have imagined - we could not have done it without ATMob... Thank you, thank you, thank you....
Sincerely,
Noreen

FROM EMAIL on atmob-discuss there are many other club members who ran Mars parties for schools, scouts, friends, etc. Thank you to all of you who offered the opportunity to observe Mars through your telescope to others. Thank you to everyone who spoke with the media and encouraged the public to go out and observe.

ON AUGUST 7th John Blomquist and Eileen Myers brought telescopes for solar observing to the Clock Tower Place Office Park in Maynard (once Digital's world headquarters). It was Tenant Appreciation Day, and several hundreds of workers there had the opportunity to view the Sun with H-alpha and white light filters. **-Eileen Myers-**

Upcoming Star Parties...

THERE WILL be an Observe Mars party for residents of the Town of Harvard at Oak Ridge Observatory, Harvard MA on Monday, September 8th, with September 9th and 10th as cloud dates. Start time will be 8:30 PM. Townsfolk will be able to look at the 61-inch, but not through it. Instead we will be able to use the 6 1/2" Clark Refractor and

the 16" Schmidt Cassegrain located there, as well as scopes belonging to members. Views of Mars should be good at around 9:30PM, so we will show the Moon and any visible deep sky objects until then. Interested in seeing the 61"? Please help out by bringing a scope or directing traffic and parking as a crowd of 300 is expected. It is a very special treat to have this research facility open to the public again. Email Eileen Myers at starleen@charter.net or call 978-456-36-937 if you can help.

THERE WILL be one Observe Mars party in September for the students of Reading elementary schools. Contact Charlie McDonald at 781-944-6140 for more details and to help out.

-Eileen Myers-

Connecticut Star Party

The Astronomy Society of New Haven's Connecticut Star Party 2003 is scheduled for the weekend of September 26 -28, 2003 at Camp Bobriwka in Colebrook CT. Featured speakers are John Dobson and ATMob member Matt BenDaniel. See <http://www.asnh.org/>.

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Matt BenDaniel matt@starmatt.com <http://starmatt.com>

Obituary...

EDWARD ("Ed") DOUGHERTY, a member of the ATMob since 1968, passed away in his home on Sunday, July 13, 2003 at the age of 70. Ed was a skilled astronomer who held a number of patent designs for features used on the Apollo Moon flight. He was born and raised in Watervliet and moved to Massachusetts about 30 years ago. He worked as an engineer at Adage, Wang and later at Discom. He was a skilled astronomer with his own observatory, and was a member of ATMob and the New Hampshire Astronomical Society. He was also a competitive roller skater. Ed was the beloved husband of Cynthia Dougherty. He will be missed.

Some remembrances from club members: From David Aucoin – "He was a man with unique vision and a hand crafter in his own right." From Lawrence D. Lopez – "Ed Dougherty helped a lot of people and he had a lot of great ideas. Some were certainly controversial. Some were works in progress. Some were wonderful. Some were modifications of existing art. Some were things he made for people because they needed them."

For Sale...

The late Edward Dougherty's wife Cindy is holding a sale of the mechanical and electrical tools and equipment plus any remaining astronomy items on: Sept. 13 & 14, 9 AM to 6 PM at 104 View Street, Dracut, MA. Many home items such as new house gutters and fixtures, weed cutter, and others are for sale too. Payment accepted by Paypal (please add 3%), cash, and money orders. (Credit cards must be put through Paypal accounts). A detailed announcement was made on atmob-announce on Sept. 30, or for information contact Eileen Myers at starleen@charter.net.

A Morning with Mars at the McGregor Observatory

While up at Stellafane for pre-convention preparations, I spent some early morning times, experimenting with different videography setups on the 13" F/10 Schupmann at the McGregor Observatory.

On the mornings of July 26th and 27th I tried the Meade B&W "Electronic Eyepiece" (340 X 280 pixels) but it did not work because it does not have a brightness control. Mars was too bright and would have required neutral density filters. That didn't make much sense!

I put that EP away and tried eyepiece projection with my Hi-8 Sony HandyCam. I was trying 32mm and 40mm Plossl's. There was a tracking problem with the mount and as the planet drifted across the field, there was a lot of vignetting evident. I had also noticed that problem on sunspots when I did some solar photography in May. We had just cleaned the optics in preparation for convention. Next time, I will try 12mm and 9mm projections.

Images of Mars looked promising for size and exposure, if I could just get the tracking rate under control.

After two days back at work, I returned on Tues. night, the 29th and found that the "software/hardware experts" had figured out what was wrong. I decided to hold off using my SBIG CCD in favor of the much easier to control Phillips ToUCam. This webcam sends images directly to a laptop via a USB port. Mars was now in my sights.

I ran sequences of one to four minutes at prime focus with the images going directly on the 40 Gig hardrive of my Sony Laptop. What was great was that other observers could look over my shoulder to see what I was recording.

I judged the seeing to be about 7, with some wander of the planetary disk and faint details appeared periodically when the high-frequency turbulence subsided.

We quickly established that we were seeing the Syrtis Major region and Sinus Sabeus was coming into view. I was somewhat disoriented because the Schupmann has three mirror reflections and, therefore, presents a mirror image to the screen. The Hellas region was rotating off the visible disk and I was relieved that no major dust storm had yet erupted. I aquired about ten thousand frames by 3AM, at which time a breeze picked up and the seeing went to Hellas!

Dog tired from standing on the ladder so long, I closed up the observatory and sacked out in the observatory attic.

I awoke about 11 AM, in a sweat. I was dreaming I was in the tropical rainforest of Costa Rica and soldiers were firing machine guns in the distance. An uprising? No. John Martin and his crew were using the wood-hog chipper behind the observatory.

Bert Willard and I checked out the optical alignment of the Porter Turret in the evening and then I went back over to Stellafane East. I tried to capture some more frames through holes in the clouds but the seeing was bad and

things just got worse as Friday and convention time. Most of you know the rest of the story it rained and rained, and Stellaflooded.

Last week I converted my files to .AVI format and picked out the best sequence of about 240 seconds. I then uploaded Reigstax software and picked the Sebaeus region as a reference area for FFT processing. After a 12 hour run on the 2.4 Gigahertz Sony, the computer had culled 700 decent frames. The next night it stacked them. I don't know how long that took....too tired and went to bed. Finally, I started the fun part of the project, using wavelets to eek out every bit of detail from those 700 frames. While I had visually seen two bright mountains in the polar cap and some dark divisions, indicating breakup is well along, there is only a hint of a rift in the processed image. However, the rest of the markings in the image reveal much that I could not resolve in the eyepiece.

I have said it before, thank goodness for New England weather. It allows astronomers time to process data.

I will have to wait until another time to try out the SBIG camera but doubt that it will be better than the \$90 webcam.

Clear, Dark, Steady Skies,
c2003 Paul Valleli



**October *Star Fields* deadline
Sunday, September 28th**

**Email articles to Mike Hill
at noatak@aol.com**

POSTMASTER NOTE: First Class Postage Mailed September 5, 2003

Amateur Telescope Makers of Boston, Inc.
c/o Shilpa Lawande, Membership Secretary
13 Royal Crest Dr., #12
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How to Find Us...

Web Page www.atmob.org

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

CLUBHOUSE: Latitude 42° 36.5' N Longitude 71° 29.8' W

The Tom Britton Clubhouse is open every Saturday from 7 p.m. 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 farmhouse on left side of the road. Clubhouse attendance varies with the weather. It is wise to call in advance: (978) 692-8708.

Heads Up For The Month . . .

To calculate Eastern Daylight Time (EDT) from Universal Time (UT) subtract 4 from UT.

September 10 Full Moon
September 18 Last Quarter Moon
September 23 Fall Begins 6:47 a.m. EDT
September 25 New Moon
September 27 Mercury reaches greatest elongation in Morning sky