



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. 28, No. 9 October 2016

This Month's Meeting . . .

Thursday, October 13th, 2016 at 8:00 PM
Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics

Parking at the CfA is allowed for the duration of the meeting

The Real Martian: Earth Explores the Red Planet



Rock Spire in 'Spirit of St. Louis Crater' on Mars. PIA19393.
Credit: NASA/JPL-Caltech/Cornell Univ./Arizona State Univ.

One of last summer's biggest blockbuster movies was "The Martian," starring Matt Damon. How accurate was the movie, and what will we need to do when we put the first "Martian" on the Red Planet's surface? In his talk "The Real Martian: Earth Explores the Red Planet," our October speaker, Jim Zebrowski, will discuss the reality of getting to Mars and surviving there.

Jim Zebrowski traces his interest in astronomy to a time when he was 7 years old when his father pointed out the planet Venus. Besides being a member of ATMoB and the Arunah Hill Natural Science Center, Jim is president of the Aldrich Astronomical Society, a club that has been active since 1932. Born in Syracuse,

New York, he attended the Christian Brothers Academy. He earned a B.S. in physics from the State University of New York at Potsdam and an M.S. in applied management from Leslie University. Since 2002, Jim has been a member of NASA's Solar System Ambassador's Program. He is currently active in the Aldrich Society's library telescope program and is helping the club build a new roll-off observatory at their site in Oakham, Massachusetts.

Please join us for a pre-meeting dinner discussion at [Changsho, 1712 Mass Ave, Cambridge, MA](#) at 6:00pm before the meeting.

President's Message . . .

Variety is the spice of life. This saying was never more evident than on a recent evening at the Clubhouse field when I viewed the Saturn Nebula (the September LVAS Observer's Challenge) with a 2.5-inch Gilbert reflector and then with the club's 25-inch Dob. That's variety to the tenth power!

My goal that evening was to take on two challenges – to glimpse the Saturn Nebula with as small a scope as possible (the Gilbert) and to view with the 25-inch its ansae - extensions that make the Saturn Nebula look like – well, Saturn!

As I mentioned in last month's President's message, I'd purchased the Gilbert scope at the Stellafane swap area this past summer because it was the same model telescope I'd used as a budding backyard astronomer back in the mid 1960s. Apparently, I wasn't the only ATMoB member whose first cosmic voyage was with this classic oldie. Several members eyed it much as an automobile fancier might eye a '57 Chevy.

I warmed up on Mizar, then the double stars gamma Delphini and gamma Arietis. The latter, a twin double, was visible as a pair of tiny specks. A quick peek at M13 (brighter than I'd expected) and I was ready for the Saturn Nebula. By now, I had become accustomed to the idiosyncrasies of the Gilbert's rickety mount. Gazing down the long hollow tube that serves as a finder, I pointed the scope towards the naked eye star nu Aquarii, positioned a few degrees east of the Saturn Nebula. I was lucky enough to pick up nu in the tight half degree field of the Gilbert's 80X Ramsden eyepiece. Then, with a careful sweep westward, I came upon a bluish out-of-focus star. First challenge met - the Saturn Nebula could indeed be glimpsed with a telescope of Lilliputian proportions.

Now for the second challenge - to view the ansae. I turned to the club's 25-inch Dob, being managed by Steve Clougherty. Magnified 8 times more than what the Gilbert could deliver and brightened by a factor of one hundred, the Saturn Nebula was a spectacular sight – a sky-blue (to me) oval that dominated the field. Though the ansae have been glimpsed with scopes as small as 8 inches, I struggled to see them with the 25-inch. But they were there, if only for fleeting moments of steady seeing. Second challenge met (although I still plan to tackle the ansae with my 10-inch Dob).

On a whim, I decided see what gamma Arietis looked like through the 25-inch and the 600X eyepiece currently in place. Instead of two tiny specks, I was looking into the glaring headlights of an automobile (a '57 Chevy, perhaps?). Two scopes. The same double star. Two totally different views. Variety!

I own over a dozen telescopes. You can call it overkill – I prefer to think of them as the variety that spices up my astronomical life. I might use my 4-inch f/4 Astroscan to view wide field objects like the Andromeda Galaxy or Pleiades, my 127mm f/12 Orion Mak/Cas on double stars, or my 13.1-inch f/4.5 Coulter Odyssey on faint planetary nebulae. Variety! Spice! Never a dull evening!

Here's a suggestion. If you've been conducting all of your observing with the same telescope, try something different. Still have that 60mm Tasco refractor your parents bought you when you were in middle school? Take it out for old time's sake. The ride might be a bit bumpy at first, but once you get readjusted, you'll go back to those exciting times when you first explored the heavens with a telescope. If you don't have a second telescope, take out one of ATMoB's loaner scopes. It's just one of the many benefits of ATMoB membership.

Clear Skies!

~ Glenn Chaple – President ~

September Meeting Minutes . . .



Michael O'Shea *

Minutes of the monthly ATMoB meeting held September 8, 2016 in the Phillips Auditorium at the Harvard-Smithsonian Center for Astrophysics. Club President Glenn Chaple called the meeting to order at 8:00pm.

- Phil Levine gave the Secretary's report.
- Eileen Myers gave the Treasurer's report.
- Chris Elledge gave the Membership report
- Glenn Chaple and Bruce Berger gave the Observing report.

Highlights:

The Perseid Meteors on August 12

Venus-Jupiter conjunction on August 27

September 28: Mercury will be at greatest Western elongation.

<https://www.fourmilab.ch/images/3planets/elongation.html>
<http://www.nakedeyeplanets.com/index.htm#mercury>

The Sue French Fan Club pick for September 2016: double star Pi Aqilae.

The Las Vegas Object Challenge for September: NGC 7009, the Saturn Nebula.

Joe Henry picks for September:

M11 (Wild Duck Cluster)

M2 (Globular Cluster)

NGC 457 (Owl "ET" open cluster)

NGC 6543 ("Cat's Eye" nebula)

S cephei (a red carbon star).

Julie Kaufman announced that the Lunar X and V will be visible this evening (September 8th). These fleeting features are an interesting interplay of shadow and light upon the Moon's crater rims. Lunar enthusiasts will be able to observe these features when they get home after the meeting.

- Steve Clougherty gave the Clubhouse report.

Steve indicated there was a very good membership turn out at work parties throughout the summer, with much useful work accomplished.

Bruce Berger mentioned that the ATMoB Research and Imaging Observatory (ARIO) enhancements are planned during upcoming work parties – specifically the dome will be cleaned and waxed, also heating cables are to be installed to help prevent ice and snow build up during the winter. For details check the newsletter or the YouTube video link.

- Announcements:

Bruce Berger mentioned the successful NASA OSIRIS-REx launch on Sept. 8th. The spacecraft is now en route to the asteroid Bennu. If all goes according to plan, OSIRIS-REx will bring back a sample from the asteroid.
<https://www.nasa.gov/press-release/nasa-s-osiris-rex-speeds-toward-asteroid-rendezvous>

Glenn Chaple informed the membership about the Arcadia Night Sky Festival up in Maine.

Glenn also encouraged the membership to participate in the Haystack Open House on Thursday, October 6, to be held at the MIT Haystack facility in Westford.
<http://www.atmob.org/events/displayevent.php?id=779>

- Other Astro Events:

On Sept. 30 – Oct. 1, the Rhode Island Skyscrapers will host AstroAssembly 2016.

<http://www.theskyscrapers.org/astroassembly2016>

Glenn Chaple and Eileen Myers informed us of ATMob members who recently passed away: Fred Montague, John Hillier and Fumiko Toyosumi (member-at-large 1997-2000).

- Old Business: none

- New Business: Bob Naeye, former Editor in Chief of *Sky and Telescope* magazine, donated some astronomy equipment to ATMob.

Glenn Chaple introduced the guest speaker of the evening, Michael O’Shea, of Popscope. Their mission: “Popscope is an urban movement that aims to reconnect diverse communities to the night sky and to each other by hosting free, “pop-up” astronomy nights in public spaces. For thousands of years, the night sky has inspired and brought people and communities together. We hope to bring people together for many more.”

Michael described how Popscope is designed to be a fun learning experience, and strives to bring people of different ethnic, cultural backgrounds together in urban public spaces, to interact and learn from one another while observing the night sky. Another goal is to help foster an interest in science, technology, engineering, and math.

Popscope is currently manned by volunteers, and is located in the cities of Ottawa, Philadelphia, Baltimore, Jacksonville, New York City and Boston. Popscope is partnered and receives funding from a number of business organizations such as Celestron, The Awesome Foundation, John Hopkins Social Innovation Club, University of Pennsylvania Physics and Astronomy, Ottawa Catholic School Board, Chicago Public Schools and the School District of Philadelphia. <http://popscope.org/>

During the question and answer period which followed the talk, a number of ATMob members offered their suggestions and experiences with astronomy urban outreach.

Snacks for the evening were provided by Eileen Myers

Glenn Chaple adjourned the meeting at 9:30 pm.

~ *Phil Levine - Secretary* ~

Meeting Recordings . . .

The recording of ATMob meeting #891 is available on YouTube: <https://youtu.be/xyoov9fNSck>

I would like to thank our new ATMob Member Michael O’Shea for allowing us to record his presentation on #popscope.

~ *Chris Elledge – Membership Secretary* ~

Membership Report . . .

I am pleased to welcome our newest members Brian Gregor, Terry Manning, Denia Taylor, and returning members David Tiller and Susan Cramer.

As of September 24th, 2016 we have 249 members. In addition to that we have 95 members that have not yet renewed their membership. The renewal period has officially ended, but we will not remove anyone from the member list or mailing lists until December 1st. If you wish to continue receiving the newsletter, getting invitations to club events, and taking advantage of our clubhouse please renew as soon as possible. Your dues and donations are what make these possible.

If you need any help at all in the renewal process, please contact me by email (membership@atmob.org), phone, or mail. My contact information is available on the back page of the newsletter and on the website. A renewal form is available online which lists all the renewal options and costs. While you are renewing please consider making a tax deductible donation to the club.

I am moving our membership database to the new Club Express website to begin the migration process. I will be contacting members whose membership accounts are incompatible with the new database format. This mainly applies to members who have entered two first names into the first name field of our current website. Your assistance is appreciated.

I have also recently updated the newsletter email mailing list to match the current membership database of active members and their primary email addresses. If you find that this newsletter did not reach your email inbox correctly (hopefully you are reading this on paper or online) then please contact me to resolve the problem.

~ *Chris Elledge – Membership Secretary* ~

Clubhouse Report . . .



(L=R) Eric Johansson and Bruce Berger washing the dome *

September 2016 Clubhouse Report

Our monthly work session was held on Saturday, Sept. 17th with a total of 20 members in attendance.

The entire property was mowed early that morning. Thanks to John Blomquist for hauling his tractor mower to the Clubhouse and completing that task.

Several volunteers hauled branches and debris from the street side of the property to the compost pile located on the West side of the field near the tree line. We would like to borrow a chipper this Fall in order to reduce the ever growing pile of branches and debris that has been piling up for the past two years. Two other members helped reduce the growth along the West side of the field in order to mitigate the tick and mosquito population.

The second floor library window holding the AC unit was rebuilt and secured thanks to the efforts of Dave Prowten and John Maher.

Maria Batista and Mike Brescia continued work on the front porch which required additional scraping and staining. We expect this project to be completed within the next one or two work parties.

The composting toilet was cleaned and made ready for another year of service.

The basement drainage project is coming along thanks to the efforts of Slav Mlch and John Stodieck.

The ATMoB Research and Imaging Observatory (ARIO) got a nice power wash and the dome is now ready for a coat of wax. Thanks to Bruce Berger, Eric Johansson and Bill Toomey.

The hot water heater circuit was repaired by Al Takeda. The plumbing hookup to the sink was performed by Dave Prowten.

Lunch was prepared by Eric Johansson, Eileen Myers, John Reed, Art Swedlow and Sai Vallabha and we thank them for this effort along with the meal clean up.

Our next scheduled work session will take place on Saturday, Oct. 15.

We would like to acknowledge the efforts of the following members and friends of the ATMoB who have made this month's work session possible; Maria Batista, Bruce Berger, John Blomquist, Mike Brescia, Paul Cicchetti, Steve Clougherty, Jim Gettys, Eric Johansson, John Maher, Vladislav Mlch, Bill Murphy, Eileen Myers, Dave Prowten, John Reed, John Stodieck, Art Swedlow, Al Takeda, Bill Toomey, Sai Vallabha and JP Wendler.

~ Clubhouse Committee Chairs ~
~ Steve Clougherty, John Reed and Dave Prowten ~

Clubhouse Evening Schedule	
Thursday Night Mirror Making	7:00 pm - #
Friday Night Educational Videos	7:00 pm - 10:30 pm #
Saturday Night Observing	7:00 pm - ##
# Closing time is determined by the organizers	
## Closing time is determined by the "A" members on duty	
Note: The Clubhouse is closed on the 2nd Thursday of the month for our monthly meeting in Cambridge.	
Due to inclement weather or cloudy conditions on Saturday evenings, the "A" members on duty may elect to close the Clubhouse. Please call the Clubhouse at (978) 692-8708 or check for messages posted to ATMOB-ANNOUNCE.	

Clubhouse Saturday Schedule		
October 8	John Maher	Eileen Myers
October 15	WORK PARTY # 10 Al Takeda **	
October 22	Bruce Berger	Glenn Meurer
October 29	Mike Hill	Brian Maerz
November 5	Dave Siegrist	John Small
November 12	WORK PARTY # 11 Rich Nugent **	

**Duty member is supplemented by a work crew volunteer. If a volunteer is not available, the work crew closes the Clubhouse

Sky Object of the Month . . .

October 2016

Courtesy LVAS Observer's Challenge***

NGC 7479 – Barred Spiral Galaxy in Pegasus

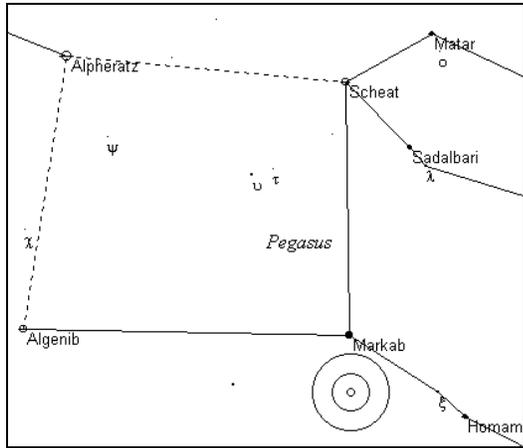
(Mag 11.0, Size 4' X 3')



Fort Lewis (CO) College Observatory 16" Schmidt Cassegrain (www.ftlewis.edu)

NGC 7479 (the 44th entry in Patrick Moore's Caldwell Catalog) is a barred spiral galaxy located in the southwest corner of Pegasus. The accompanying finder chart shows its location about 2 1/2 degrees south of the 2nd magnitude star Markab. It was discovered in 1784 by William Herschel, who described it as "Considerably bright, much extended, gradually brighter in the middle, 4' long and 2' broad." NGC 7479 presents us with a pair of challenges. What is the smallest telescope that can capture the galaxy, and what is the least aperture that will reveal its barred structure? In modern times, NGC 7479 has spawned two supernovae – SN 1990U and SN 2009jf. This huge barred spiral

is located about 105 million light years away and is perhaps 20% larger than our Milky Way.



www.star-shine.ch

***The purpose of the LVAS Observer's Challenge is to encourage the pursuit of visual observing. It is open to everyone who is interested, and if you are able to contribute notes, drawings, or photographs, the LVAS will be happy to include them in their monthly summary. If you would like to contribute material, submit your observing notes, sketches, and/or images to either [Roger Ivester \(rogerivester@me.com\)](mailto:rogerivester@me.com) or [Fred Rayworth \(fred@fredrayworth.com\)](mailto:fred@fredrayworth.com). To find out more about the LVAS Observer's Challenge or access past reports, log on to lvastronomy.com/observing-challenge.

~ Glenn Chaple – Observing Committee ~

Arlington Touches the Stars: Peter Schwamb and the Mt. Wilson Observatory Lecture. . .

The mount for the 100-inch Hooker telescope was made at the Fore River Shipyard in Quincy. During fabrication, Peter Schwamb, of the Arlington Schwamb families, served as consulting engineer and overseer. Peter was a graduate of MIT and went on to become professor of mechanical engineering at the Institute. He undertook this project in his retirement and probably got more than he bargained for. The story will be told through the 1913-1916 correspondence between Schwamb and Mt. Wilson, which has been preserved in the observatory archives.

The talk will be presented by Tom Calderwood, Friday, November 11, at the Old Schwamb Mill, 17 Mill Lane (not Mill St.) in Arlington.

Doors will open at 6:30;

A \$5 donation is suggested.

~ Submitted by Tom Calderwood ~

Annual Club Picnic . . .



(L-R) Paul Cicchetti and John Reed at the grill *

Breaks in the clouds greeted us on Saturday, September 10, at this year's annual picnic. Thanks to Phil Rounseville we all had H-alpha views of the Sun. Spouses and lots of young kids had their first views, and were thrilled.



Julie Kaufmann (purple hat) leading the kids activities *

Some years there are only a few children attending. This year, with all the new families who have joined, Julie Kaufmann was kept busy guiding more than a dozen through making refracting telescopes and other activities.



Bill Toomey (center) prepares the group for the walk up the hill. *

Bill Toomey led a large group up the hill for the annual walk and talk about the radio telescopes and the history of the area. Upon their return, one picnic regular said it was the best talk ever. A newbie on the walk let it be known that the coyote fooled him and he was getting ready to run for his life!



Eileen Myers showing parts of a telescope *

Eileen Myers gathered a small crowd and led the demonstration of how a telescope works. Phil Rounseville continued, demonstrating mirror grinding. The high interest continued into the grinding and polishing rooms, including a demonstration of how mirrors are tested. Some returned to the demo tent and tried their hand at mirror grinding, asking many questions of Phil.



Phil Rounseville demonstrating a spherometer *

Club observatories – Clamshell, Ed Knight, ATMoB Research and Imaging Observatory (ARIO), 17-inch - were open for visiting thanks to John Maher, Jim Getty and Eric Johansson.



The Clamshell Observatory *

The food was terrific. Demands for recipes followed. The hits this year were Chris and Meghan Elledge's Chocolate Velvet Pie and Rice Krispies Candy.



Everyone was delighted to see legendary astronomer Tal Mentall, legendary hiker Stellita Cronin who is recovering from a serious illness, legendary mirror maker Paul Valleli, and legendary Club Historian Anna Hillier.



(L-R) Paul Valleli and Anna Hillier *

Thanks go to the skilled work team who prepared the Clubhouse, mowed the lawn (John Blomquist and Al Takeda),

loaned and set up tents, set up the food stations, gave informal tours, and cleaned up before, during, and after the event. Attendance this year was around 60, and almost everyone helped out in some way. Thank you all! We had a good time.

Thank you to Ray, Ned and Bill Toomey for loaning the big tent, setting it up, and taking it down. A special thank you goes to Hugo Alvarez, and especially to his young son Diego Alvarez. Diego was reliable and willing to do all of the carrying, setting up of tables, and following through on anything asked of him, often left to his own skills to figure out how things worked.

The following day a sudden microburst hit Groton, taking down the food tent and bending some of the poles, hopefully to be fixed or replaced.

All in all it was a wonderful time, and Eileen Myers and Al Takeda thank each other for all of the hard work each did. Congratulations to all, and see you at next year's picnic.

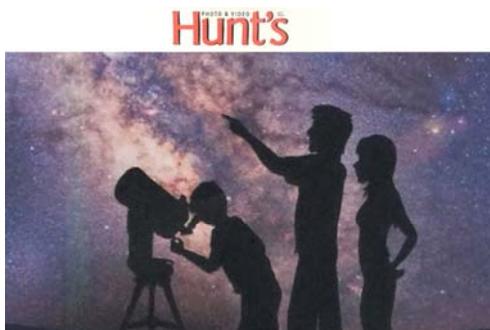
~ Al Takeda and Eileen Myers – Picnic Coordinators ~

Eclipse 2017 Announcement . . .

At the October meeting, Bernie will provide a brief update on the 2017 Total Solar Eclipse trip to Columbia, MO. This will include a reminder about the eclipse circumstances and travel related details, as well as some photos from his recent visit to the area in late August.

~ Submitted by Bernie Volz ~

Star Gazing with Celestron . . .



Celestron representatives will be presenting a free Star Gazing Party at Hunts Photo and Video in Melrose, MA on Friday, October 14th. They will be observing the Moon, planets and brighter deep sky objects with an assortment of Celestron telescopes.

Friday, October 14
6:30 pm - 8:30 pm

Hunts Photo and Video
100 Main Street
Melrose, MA

~ Submitted by Dick Koolish ~

Lunar X and V . . .



Lunar X. Photo from Tony Rice

The Lunar X (also known as the Werner X or the Purbach Cross) is an effect of light and shadow that creates the appearance of the letter 'X' about 6 hours before the first quarter and 6 hours after the last quarter moon. It is formed by the rims of Blanchinus, La Caille, and Purbach craters. It lasts for only a few hours, but the X will appear to float just beyond the terminator for about an hour.

There is also a Lunar V that shows up at the same time, formed by the Ukert crater and a few other small craters.



www.eyesonthesky.com. Copyright David Fuller

Here are the next three appearance times, one of which is at night.

Oct 08	08:24 EDT	05:24 PDT
Nov 06	21:16 EST	18:16 PST
Dec 06	11:32 EST	08:32 PST

~ Submitted by Julie Kaufmann ~

Editor: * Photos by Al Takeda unless otherwise noted.

November Star Fields DEADLINE
Sunday, October 23rd

Email articles to Al Takeda at
newsletter@atmob.org

Articles from members are always welcome.

POSTMASTER NOTE: First Class Postage Mailed October 8, 2016

Amateur Telescope Makers of Boston, Inc.
c/o Chris Elledge, Membership Secretary
99 College Ave
Arlington, MA 02474
FIRST CLASS

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NEWSLETTER Al Takeda newsletter@atmob.org

PUBLIC OUTREACH

STAR PARTY COORDINATOR:

Virginia Renehan starparty@atmob.org

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 see www.atmob.org and check your email on the ATMOB-ANNOUNCE list.

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.

- Oct 8 Draconid Meteor Shower
- Oct 9 First Quarter Moon (Moonset at midnight)
- Oct 15 Uranus at Opposition
- Oct 16 Full Moon
- Oct 19 Aldebaran Occultation
- Oct 21 Orionid Meteor Shower peak
- Oct 30 New Moon
- Nov 6 Daylight Saving Time Ends