



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. 2 February 2016

This Month's Meeting . . .

Thursday, February 11th, 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 World At Night



For this month's speaker we are pleased to welcome back Babak Tafreshi, founder and director of The World At Night (TWAN). The World At Night is an international program to produce and present stunning photographs and time-lapse videos of the world's landmarks against celestial backdrops. TWAN includes 50 of the world's best photographers and coordinators from about 30 countries. TWAN images, which represent naked eye views, help to popularize astronomy while playing a role in increasing awareness of the value of dark skies and the growing problem of light pollution.

Babak A. Tafreshi is a photojournalist and science communicator. A freelance photographer at the National Geographic, he received the 2009 [Lennart Nilsson Award](#), the world's most recognized award for scientific photography, for his

global contribution to night sky photography. He is the founder and director of The World At Night (TWAN), a board member of Astronomers Without Borders, a contributing photographer at *Sky & Telescope Magazine* and the European Southern Observatory.

Born in 1978 in Tehran, Babak is an Iranian based in the United States, but he is often on the move and could be anywhere, from the heart of Sahara to the Himalayas or Antarctica. When living in Iran he was editor of the Persian astronomy magazine *Nojum* for a decade, and has been a board member of the Astronomical Society of Iran's outreach committee where he directed many national astronomy events.

TWAN is a bridge between art, humanity, and science, with a unique message. The eternally peaceful sky looks the same above all nations and regions, attesting to the unified nature of Earth and mankind. "One People, One Sky!"

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 . . .

February's chill arctic blasts certainly test the mettle of backyard astronomers here in the Northeast. Were it not for the glories of the winter Milky Way, many of us would shut down and wait for the milder nights of spring. But the celestial wonders that abound in Orion and neighboring constellations beg us to dress like Eskimos and peer through our telescopes at, among other showpieces, the Orion Nebula, the open clusters M36, 37, and 38 in Auriga, and – yes – the Eskimo Nebula in Gemini.

Nothing is more serene than a night alone under the stars, especially in winter. But the chill is a little easier to bear when you're in the company of other sky gazers, especially when it's at the ATMob observing field in Westford. The cold weather seems less intense when we're chatting with friends or moving around from one telescope to another. And if the frost begins to bite, we can always retreat to the warmth of the Clubhouse. A half hour thaw, and we're eager to return outside and capture the Crab Nebula, the open clusters of Puppis and Monoceros, and all the other winter wonders that will all-too-soon fade away in the west.

Clear Skies!

~ Glenn Chaple – President ~

Help Wanted . . .

ATMoB is looking for individuals interested in being part of a committee to upgrade our website. The committee will evaluate our current website, study other astro club websites, investigate the pros and cons of various website makers, and make recommendations to the ATMob Board. Any ATMob member may apply. Contact ATMob President Glenn Chaple at president@atmob.org.

January Meeting Minutes . . .

Minutes of the ATMoB meeting held on January 14, 2016 in the Phillips Auditorium at the Harvard-Smithsonian Center for Astrophysics. President Glenn Chaple started the meeting at 8:00 PM.

- Phil Levine gave the Secretary's report
- Eileen Myers gave the Treasurer's report
- Tom McDonagh gave the Membership report. Tom mentioned some members are not receiving club notifications or the monthly newsletter via email. Members should check their SPAM folder and if possible, edit their SPAM settings. Some Internet service providers, such as RCN and AOL, seem to be problematic.
- Glenn Chaple gave the Observing report:

Weather conditions were less than optimal for viewing the Geminid meteor shower, the Quadrantid meteor shower, the Venus/Saturn occultation and comet C/2013 US10 (Catalina).

Glenn mentioned the Jan 19th Aldebaran/Moon occultation.

The Sue French Fan Club object of the month is NGC 1535, a planetary nebula.
<http://dso-browser.com/dso/info/NGC/1535/planetary-nebula>.

The LVAS object of the month is M78, a diffuse reflection nebula in Orion. <http://messier.seds.org/m/m078.html>

- Steve Clougherty gave the Clubhouse Report:

15 volunteers attended the December 26th work party. MIT replaced problematic carbon monoxide smoke detectors.

The ATMoB Research and Imaging Observatory (ARIO) and the Clamshell Observatory domes are frozen shut due to ice conditions.

The next work party is Jan 23rd. Steve mentioned that some club telescopes are in need of maintenance.

- Announcements:

There is an upcoming Star Party in early March, at the Maria Mitchell Observatory on Nantucket,
<http://www.mariamitchell.org/visit/loines-observatory>.
ATMoB members are encouraged to volunteer.

Joseph Rothchild made available some surplus astronomy equipment for club members, after the meeting.

Al Takeda provided updated information on the Saturday Clubhouse duty scheduling.

- Old Business:
Highlights from the New Year's Eve Party.
- New Business:

A collection was taken up to help fund the ATMoB/Ed Knight Observatory Dark Sky Clock website.

Glenn mentioned the need for a nominating committee, as the term for elected club officers will end in a few months. It was noted that the Vice President position has been open since Glenn assumed the role of club President.

Tom McDonagh brought up the importance of ATMoB public outreach at Star Parties, and encouraged the membership to consider volunteering.

Glenn introduced the guest speakers for this month: Al Takeda, Bob Naeye, Dick Koolish, Alan Sliski and Ken Launie.



Al Takeda *

Al gave a detailed description of the facilities at the ATMoB Clubhouse in Westford. The facility is an old farmhouse, built circa 1860. Many hours of renovation work on this old farmhouse have been performed by the club membership.

Various club telescopes are available for membership use. Some of the larger scopes are being housed in the Chase Hutch, the Ed Knight Observatory, the ATMoB Research and Imaging Observatory (ARIO), and the Clamshell Observatory. A number of concrete foundations/pads are laid out on the observing field for members to setup their telescopes.

Al mentioned the facilities available for telescope making. Those include mirror grinding, polishing, testing, an extensive machine shop, an electronics shop, as well as a club library. On Thursday nights there is instruction available for mirror making. Friday evenings feature educational astronomy videos, courtesy of John Maher. Other functions at the Clubhouse include board member meetings, the New Year's Party, the annual club picnic, and various educational seminars.



Bob Naeye *

Bob Naeye, former editor of *Sky and Telescope Magazine*, gave an overview of his recent visits to the Mount Wilson, Griffith and Palomar Observatories, and the California Science Center. Bob mentioned that he had limited observing due to cloudy conditions. Even so, the highlights were Jupiter and the Trapezium cluster in the Orion Nebula.

Many historically important discoveries were made at the Mount Wilson observatory. Edwin Hubble used the Hooker 100" telescope to identify a Cepheid variable star within the Andromeda "nebula". Hubble applied the period-luminosity relationship (discovered by Henrietta Leavitt at Harvard), to calculate the vast distance to this Cepheid, disproving the idea that the Milky Way galaxy comprised the whole universe, and establishing Andromeda as a separate, distant galaxy. The determination that our universe is expanding (the Hubble constant) also took place at Mount Wilson.



(L-R) Dick Koolish, Alan Sliski and Ken Launie *

Dick Koolish, Alan Sliski, and Ken Launie gave a summary of the Antique Telescope Society's (ATS) visit to the Lick (California (CA)), Chabot (CA), Stanford Solar (CA), Yerkes (Wisconsin) and Leiden (Netherlands) observatories. Being part of the ATS, the group was able to gain access, and have "hands on" exposure to observatory hardware, something the general public is not able to enjoy.

Glenn adjourned the meeting at 9:30 pm.

~ **Phil Levine - Secretary** ~

Membership Report . . .

Membership count as of January 28, 2016 is at a healthy 281 individuals. At the same time last year, membership was calculated to be 296 members in good standing.

We had three new or returning members join in the last 30 days. Please take the time to introduce yourself to our newest members: Scott Lyman, Chester Freeman and David Vaccaro.

Please also remember to sign up for the ATMOB-Announce and ATMOB-Discuss mailing lists for up to date information on club openings and interesting astronomy related discussions. The link for managing membership to mailman mailing lists is: <http://www.atmob.org/library/maillinglists.php>

A number of Internet Service Providers have been blocking emails from ATMOB. If you have not received Announce or Discuss emails from the club, you may have been dropped from the lists due to excessive email bouncing. Follow the link above to check your status and re-subscribe if the need arises.

Contact me with questions regarding this option at: membership@atmob.org.

The Amateur Telescope Makers of Boston, Inc. is a 501(c)3 organization. Donations are gladly accepted and are tax deductible to the fullest extent allowed by law. Consider making a tax-deductible contribution to the club during your estate and tax planning this year. Many companies make matching contributions at an employee's request. This is a simple way to make your donation go twice as far.

~ **Tom McDonagh - Membership Secretary** ~

Clubhouse Report . . .



(L-R) Dave Prowten and Steve Clougherty applying treads *

January 2016 Clubhouse Report

January has been mostly kind to our Clubhouse in Westford this year, but one member spent time on Monday, Martin Luther

King Day removing snow and ice from the observing pads and clearing walkways.

A total of 20 members helped out at our monthly work session which took place on Saturday January 23rd. Steve C., Dave P. and Paul C. installed anti-slip tread on the telescope shed ramp, which required warming the material with a heater prior to application. This will reduce the likelihood of slipping when moving equipment in and out of the shed when the ramp is wet.

Ice and snow build up have inhibited the movement of the ATMob Research and Imaging Observatory (ARIO) dome and shutter causing a cable to come off of the track. The observatory is temporarily closed until this cable can be fixed. Our long term plan for the observatory is to install another fiberglass ring at the base of the dome, raising it higher in order to allow free movement of the rotating dome. Volunteers will be needed to help with this project in the Spring. The other three observatories are operating well and their telescopes are available for qualified members to use.



Paul Courtemanche works on the 60mm Celestron refractor *

Steve C., Paul Courtemanche, Eric J. and John S. and Al T. continued work on the club loaner telescopes, including the 8-inch Blue Dob (Dobsonian), the six-inch White Dob, the 60mm Celestron refractor, the 4.5-inch Celestron Nexstar Newtonian and the TAL 4-inch refractor. Optically the Dobsonians are in good condition after the primary mirrors were cleaned and collimated. Mechanically, some hardware needs upgrading, including the replacement of the 1.25" focusers on both scopes. A Vixen (V) style dovetail plate adapter was fabricated by Al T. and the "V" plate was attached to the TAL refractor.

Volunteers brought in needed supplies for the kitchen and lunch was prepared by our hard working kitchen crew: Nina C., Eric J., Eileen M., John R. and Sai V.

Thanks to the following volunteers who have helped us during the month of January:

Bruce Berger, John Blomquist, Paul Cicchetti, Steve Clougherty, Paul Courtemanche, Nina Craven, Jim Gettys, Tom Harpin, Eric Johansson, Charles Leiserson, Jr., Penny Lucinian, John Maher, Tom McDonagh, Vladislav Mlch, Eileen Myers, John Reed, Ante Sabo, John Stodieck, Al Takeda and Sai Vallabha

~ *Clubhouse Committee Chairs* ~

~ *Steve Clougherty, John Reed and Dave Prowten* ~

Clubhouse Saturday Schedule		
Feb 6	John Panaswich	John Small
Feb 13	Nina Craven	Brian Maerz
Feb 20	WORK PARTY # 2 No Duty Scheduled **	
Feb 27	Bruce Berger	Glenn Meurer
Mar 5	Eileen Myers	Rich Nugent
Mar 12	Karl Dean	Mike Hill
Mar 19	George Paquin	Tom Wolf
Mar 26	WORK PARTY # 3 No Duty Scheduled **	

** Closing time for the Clubhouse is determined by the work crew

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 the ATMOb-ANNOUNCE list for information.	

Sky Object of the Month . . .

February 2016

Courtesy LVAS Observer's Challenge*

NGC 2237 "Rosette Nebula"

Diffuse Emission Nebula in Monoceros

Magnitude 9.0, Dimensions 80' X 60'



www.easternvoltageresearch.com/dan/charts/finder_ngc2237rosette.pdf

NGC 2237, the “Rosette Nebula,” is a wreath-shaped nebulosity surrounding the open cluster NGC 2244. Easily captured in astroimages, the Rosette is a visual challenge. Fortunately, the Rosette Nebula is easy to find because it surrounds the 5th magnitude open cluster NGC 2244. A line drawn from lambda (λ) Orionis through Betelgeuse and extended an equal distance beyond will bring you to the 4th magnitude star epsilon (ϵ) Monocerotis - a fine double star whose magnitude 4.4 and 6.7 are separated by 12 arc-seconds. After admiring this pair, point your scope two degrees east and a bit north. There you’ll find NGC 2244, which contains several dozen stars of magnitudes 6-12 and spans 24 arc-minutes. Once thought to have been discovered by John Flamsteed around 1690, NGC 2244 was more likely picked up by William Herschel in 1784.

Herschel failed to detect the surrounding nebulosity, and 80 years passed before the Rosette began to be discovered in piecemeal fashion - first by the German astronomer Albert Marth and later by American comet-hunter Lewis Swift. As a result, the Rosette had several NGC numbers, but is primarily identified by the designation NGC 2237.

To see the Rosette well, you’ll need dark skies and a scope/eyepiece combination that yields a 2 degree field to encompass its one-degree-plus width. Binoculars and rich-field telescopes work well and, in slightly light polluted skies, an OIII or UHC is a must.

The Rosette and its embedded cluster lie about 5000 light years away. The entire system is at least 100 light years across.

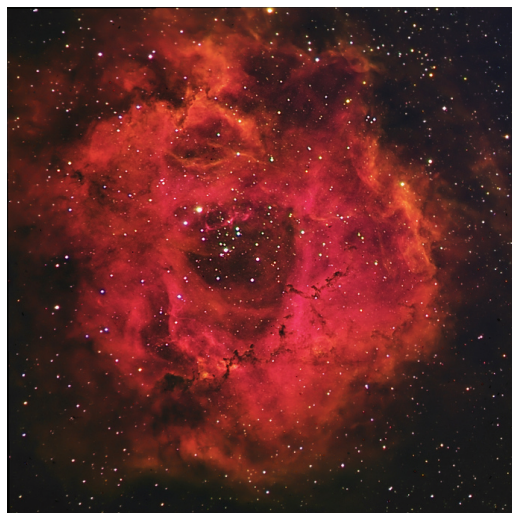


Image by Mario Motta, M.D.

~ Glenn Chaple – Observing Committee ~

Morning Planetary Lineup . . .

Set those alarm clocks again to wake up before sunrise to see 5 planets line up in the morning sky.

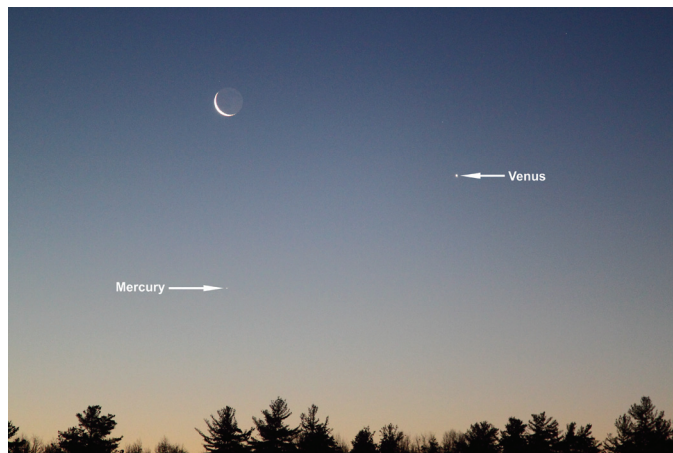
For the next week, February 6 - 14, the planets Mercury, Venus, Saturn, Mars and Jupiter will be visible in a row. As an added bonus, the Moon has and will pass by each of the planets as it approaches a conjunction with Mercury on February 6th, 2 days before New Moon.

The last time a lineup occurred was in late December 2004 to early January 2005, eleven years ago.

The next time you will see 5 planets at a glance will be in the evening sky this coming August.



Planetary Lineup Mosaic. Canon T1i, 16-35mm f/2.8L (at 16mm, f/4), 10 seconds, ISO 1600, February 6, 2016, 05:54 EDT, ATMoB Clubhouse. *



Mercury, Venus and Moon. Canon T1i, 24-105mm f/4L (at 105mm, f/4), 1/10 second, ISO 1600, February 6, 2016, 06:13 EDT, Littleton, MA. *

~ Al Takeda – Newsletter Editor and Member at Large ~

Editor: * Photos by Al Takeda unless otherwise noted.

March Star Fields DEADLINE
Sunday, February 21st

Email articles to Al Takeda at
newsletter@atmob.org

Articles from members are always welcome.

POSTMASTER NOTE: First Class Postage Mailed February 6, 2016

Amateur Telescope Makers of Boston, Inc.
c/o Tom McDonagh, Membership Secretary
48 Mohawk Drive
Acton, MA 01720
FIRST CLASS

EXECUTIVE BOARD 2015-2016

PRESIDENT: Glenn Chaple (978) 597-8465

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SECRETARY: Phil Levine (781) 956-6509

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MEMBERS AT LARGE: Bruce Tinkler (781) 862-8040

Al Takeda (508) 494-7877

PAST PRESIDENTS:

2014 - 15 Neil Fleming

2012 - 14 Mike Hill (508) 485-0230

2010 - 12 Bernie Kosicki (978) 263-2812

2006 - 08 Virginia Renahan (978) 283-0862

COMMITTEES

CLUBHOUSE: John Reed (781) 861-8031

Steve Clougherty (781) 784-3024

David Prowten (978) 369-1596

OBSERVING: Bruce Berger (978) 387-4189

NEWSLETTER Al Takeda newsletter@atmob.org

PUBLIC OUTREACH

STAR PARTY COORDINATOR:

Virginia Renahan 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 Standard Time (EST) from Universal Time (UT) subtract 5 from UT.

Feb 8 New Moon

Feb 15 First Quarter Moon (Moonset at midnight)

Feb 22 Full Moon

Feb 23 Jupiter 1.7 deg. N of Moon

Mar 1 Last Quarter Moon (Moonrise at midnight)

Mar 8 New Moon

Mar 13 Daylight Saving Time begins

Mar 15 First Quarter Moon (Moonset at midnight)